

FINAL  
ENVIRONMENTAL ASSESSMENT

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SHORT-TERM  
CONSTRUCTION PROJECTS  
AT THE  
150th FIGHTER WING

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New Mexico Air National Guard  
Kirtland Air Force Base, New Mexico

January 2003

AIR NATIONAL GUARD  
ENVIRONMENTAL DIVISION

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## Acronyms

150 FW	150 <sup>th</sup> Fighter Wing	NMANG	New Mexico Air National Guard
377 ABW	377 <sup>th</sup> Air Base Wing	NMDGF	New Mexico Department of Game
ACBM	asbestos-containing building material	NMFD	New Mexico Forestry Division
AEHD	Albuquerque Environmental Health Department	NO <sub>x</sub>	oxides of nitrogen
AFB	Air Force Base	NPDES	National Pollutant Discharge Elimination System
AFI	Air Force Instruction	NRHP	National Register of Historic Places
AST	aboveground storage tank	O <sub>3</sub>	ozone
BMPs	best management practices	OWS	oil water separator
CAAA	Clean Air Act Amendments	Pb	lead
CEQ	Council on Environmental Quality	PM <sub>10</sub>	particulate matter less than 10 microns in diameter
CFR	Code of Federal Regulations	POV	privately owned vehicle
CO	carbon monoxide	PPT	Pollution Prevention Team
CWA	Clean Water Act	RCRA	Resource Conservation and Recover Act
dB	decibels	ROI	region of influence
dBA	A weighted decibels	SCS	Soil Conservation Service
DNL	day-night average dBA level	SF	square foot
DOD	Department of Defense	SHPO	State Historic Preservation Officer
DOPAA	Description of the Proposed Action and Alternatives	SIP	State Implementation Plan
EA	environmental assessment	SO <sub>2</sub>	sulfur dioxide
EIAP	Environmental Impact Analysis Process	SO <sub>x</sub>	oxides of sulfur
EIS	environmental impact statement	SWP3	Storm Water Pollution Prevention Plan
EO	executive order	TSP	total suspended particulates
FY	fiscal year	USACE	United States Army Corps of Engineers
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning	USAF	United States Air Force
IRP	Installation Restoration Program	USEPA	United States Environmental Protection Agency
LBP	lead-based paint	USFWS	United States Fish and Wildlife Service
MSA	Metropolitan Statistical Area	USGS	United States Geological Survey
MSL	above mean sea level	UTA	Unit Training Assemblies
NAAQS	National Ambient Air Quality Standards	VOC	volatile organic compounds
NEPA	National Environmental Policy Act	°F	degrees Fahrenheit
NHPA	National Historic Preservation Act		
NMAAQS	New Mexico Ambient Air Quality Standards		

**FINDING OF NO SIGNIFICANT IMPACT**  
**Environmental Assessment of**  
**Short-Term Construction Projects at the 150<sup>th</sup> Fighter Wing**  
**New Mexico Air National Guard**  
**Kirtland Air Force Base, New Mexico**

### **Introduction**

The New Mexico Air National Guard's (NMANG) 150<sup>th</sup> Fighter Wing (150FW) is based on a 104-acre leased tract at Kirtland Air Force Base. Existing operation and training facilities necessary to support the 150FW's F-16 flying mission and 24 aircraft are no longer adequate due to undersize, aged infrastructure, and general deterioration. To correct these deficiencies a short-term facility modernization program is proposed for execution over the next three to four years. Separate but interrelated projects involving new construction, additions to existing buildings, demolition, and a new NMANG base entrance would be accomplished within the existing 150FW base at Kirtland. The potential environmental consequences of this facility modernization program have been analyzed in an Environmental Assessment (EA) culminating in this Finding of No Significant Impact (FONSI). The EA was prepared in accordance with the Air Force's "Environmental Impact Analysis Process" as codified at 32 CFR 989 and the implementing regulations of the National Environmental Policy Act as codified at 40 CFR 1500-1508.

### **Description of Proposed Action and Alternatives**

#### **Proposed Action**

The following nine short-term construction projects comprising the 150FW facility modernization program were collectively analyzed as the proposed action: 1) A new Composite Support Facility (15,800 sq. ft.) to be constructed on Ballfield 1 in the eastern portion of the NMANG base; 2) An addition to the Composite Medical Training Facility, Building 1079 (adding 1,972 sq. ft.); 3) A new Security Forces Facility (6,500 sq. ft.) to be constructed on vacant land in the eastern portion of the NMANG base; 4) An addition to the Vehicle Maintenance Facility, Building 1058 (2,836 sq. ft.); 5) Demolition of the Communications Building, 1045; 6) Demolition of the Finance Building, 1053; 7) Extension of C Street between Falcon Drive and Randolph Drive to form a new NMANG base entrance; 8) Demolition of the Security Forces Building, 1059; and 9) Relocation of the static displays from their current location to the new base entrance.

#### **No Action Alternative**

Under the no action alternative, the NMANG would not implement any of the above short-term facility modernization projects. No new facilities would be constructed, and no existing facilities would be expanded or demolished. The NMANG would endeavor to be mission ready by continued repair and maintenance of the existing facilities. No significant environmental impacts would result from the no action alternative.

#### **Alternatives Eliminated from Detailed Analysis**

The NMANG considered and eliminated the following alternative component projects from the proposed facility modernization program. Demolition of adjacent Buildings 1045 and 1053 with reconstruction on the same site was deemed not feasible due to lack of facilities to house their

functions during the demolition and construction period. New construction at the site of Building 1059 is prohibited because Building 1059 lies within the airfield clear zone. Most of the area south of C Street is unavailable for construction as it falls within the airfield clear zone where no facilities are permitted. With the majority of NMANG's 104-acre base already built out, there are few areas available for development and they are concentrated in the eastern portion of the base. Because of these constraints it was determined that there were no other reasonable alternatives to the proposed action.

## **Affected Environment and Environmental Consequences of Proposed Action**

### Air Quality

New Mexico's Air Quality Control Region 2 which includes Kirtland AFB is currently in attainment of all federal air quality standards as well as in maintenance status for carbon monoxide (CO) since attainment of this standard is recent. Temporary air quality impacts from construction and demolition activities would occur from fugitive dust, debris handling, and products of combustion from construction equipment. Emissions of particulate matter less than 10 microns in diameter (PM<sub>10</sub>) are estimated to be 2.5 tons for construction and demolition activities well below the threshold level for PM<sub>10</sub> for General Conformity applicability. Emissions of carbon monoxide, sulfur dioxide, oxides of nitrogen, and volatile organic compounds from construction equipment exhaust are estimated from 1 to 4 tons per year per pollutant—well below the General Conformity applicability thresholds. Therefore, air quality impacts would not be significant.

### Noise

In the long term noise, measured as day-night average A-weighted decibel (DNL) values, would not change as a result of the proposed action. During construction and demolition, DNL values would negligibly increase in the immediate vicinity of the activity. No sensitive receptors would be affected by these short-term increases. Therefore, noise impacts associated with the proposed action would not be significant.

### Land Use

Kirtland AFB and the 150FW have shared use of the airfield complex at the Albuquerque International Airport which lies adjacent to and immediately west of NMANG. Land use within the existing 150FW property consists of airfield safety zones, airfield pavement, aircraft operations and maintenance, industrial, command and support, and a small amount of open space. The proposed action would result in conversion of approximately half of the existing open space to the command and support category. However, this would not create a significant reduction in open space on Kirtland AFB which has large tracts of open space to the southeast of the cantonment area. In addition, a non-conforming structure would be removed from the clear zone. These impacts would not adversely affect land use.

### Geologic Resources

The NMANG property is relatively level and most of the area has already been developed. Consequently, most surface soils have been previously disturbed or paved over. Surface soils are well drained sands and loams with slight to moderate hazard of wind and water erosion. As a tenant organization, NMANG is required to comply with Kirtland AFB's Stormwater Pollution

Prevention Plan (SWPPP) and National Pollutant Discharge Elimination System (NPDES) General Construction permit, both of which mandate the use of appropriate erosion control measures during construction and demolition. Consequently, impacts to geological resources would not be significant.

#### Water Resources

There are no natural surface water drainages and no jurisdictional wetlands within the NMANG property. The 150FW base is not within a floodplain. Long-term impacts from the proposed action include increased stormwater runoff due to a 1.5-acre increase in impervious surfaces. Since groundwater recharge is minimal in the vicinity of the NMANG property due to hydrogeologic conditions (depth to groundwater, precipitation levels, and geologic substrate), groundwater recharge would not be diminished. Because there will be no increase in personnel under the proposed action, demand for potable water would not increase. Therefore, no significant impacts to water resources would occur.

#### Biological Resources

Under the proposed action, impacts to area vegetation and wildlife would include the loss of approximately 1.5 acres of grassland area that is known to support Gunnison's prairie dog and Western Burrowing Owl populations. Vegetation in this area consists of disturbed grasslands. Gunnison's prairie dog is afforded no protection under Federal or state laws. However, Burrowing Owls are listed as a Federal species of concern and are protected under the Migratory Bird Treaty Act. Therefore, the 150FW would have to obtain a permit from the United States Fish and Wildlife Service for the passive exclusion and relocation of Burrowing Owls inhabiting the project area. With the relocation of Burrowing Owls no significant impacts to biological resources would result from implementation of the proposed action.

#### Transportation and Circulation

The proposed action will not increase the number of personnel at the 150FW and therefore will not increase the number of vehicle trips to or on the NMANG property in the long term. Relocation of the NMANG base entrance would improve traffic flow by diverting NMANG traffic to a less congested entry/exit point.

#### Visual Resources

Due to the existing urbanized nature of the project area and immediate vicinity, there would be minimal impacts to visual resources. New structures are planned as single story and additions would not exceed existing building heights. Consequently the proposed action would not detract from existing quality views to the east and south of Kirtland AFB.

#### Cultural Resources

A Class III archaeological survey conducted on the NMANG property was negative for archaeological resources. Affected buildings are not eligible for inclusion on the National Register of Historic Places and the New Mexico State Historic Preservation Office concurs that historic properties would not be affected. The Ysleta Del Sur Pueblo requested to be contacted if cultural resources were discovered during project construction. If buried cultural deposits are discovered during construction, all ground-disturbing activities will halt, the Kirtland AFB

cultural resources manager will be notified, and they in turn will contact representatives of the Ysleta Del Sur Pueblo. The proposed action would not have significant impacts on cultural resources.

#### Socioeconomics

The proposed action will not increase or decrease the number of personnel of the 150FW. There would be no disproportionately impacted populations, and no health or safety risks to children would be created. There would be a temporary boost to the local economy during the construction period.

#### Hazardous Materials and Wastes


Under the proposed action there would be no change in hazardous materials used, generated, stored or disposed. All demolition wastes would be disposed of at appropriate disposal facilities. Any asbestos-containing building material and lead-based paint (LBP) would be handled in accordance with Kirtland AFB's existing Asbestos and Lead-Based Paint Management Plans.

#### **Public Notice**

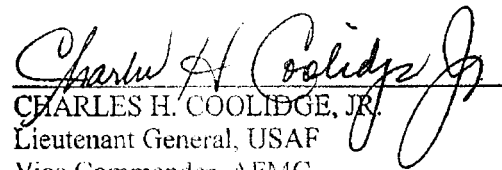
A public notice was published in the *Albuquerque Journal* on 26 Dec 01 inviting the public to review and comment upon the Environmental Assessment. The public comment period closed on 25 Jan 02. No comments were received.

#### **Finding of No Significant Impact**

Based on our review of the facts and analysis as summarized above and detailed in the attached environmental assessment, we conclude that the proposed action will not have a significant impact on the human environment either by itself or considering cumulative impacts of other foreseeable actions. Accordingly, the requirements of the National Environmental Policy Act, the President's Council on Environmental Quality regulations, and 32 CFR 989 have been fulfilled, and an environmental impact statement is not required and will not be prepared.

  
MARSHA JULIAN, Major  
Chief, Environmental Management  
Environmental Management Services  
150<sup>th</sup> Fighter Wing

8-16-02  
DATE

  
CHARLES H. COOLIDGE, JR.  
Lieutenant General, USAF  
Vice Commander, AFMC

18 Jan 2003  
DATE

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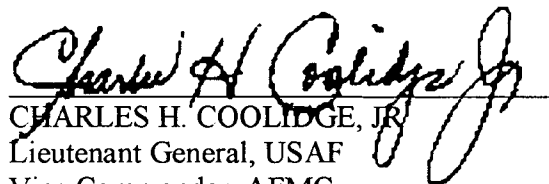
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MARSHA JULIAN, Major  
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CHARLES H. COOLIDGE, JR.  
Lieutenant General, USAF  
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New Mexico Air National Guard  
Kirtland Air Force Base, New Mexico

January 2003

AIR NATIONAL GUARD  
ENVIRONMENTAL DIVISION

## Table of Contents

Acronyms .....	Inside Front Cover
1.0 INTRODUCTION .....	1
1.1 Background .....	1
1.1.1 Location.....	1
1.1.2 History.....	2
1.1.3 Current Operations .....	2
1.1.3.1 Mission.....	2
1.1.3.2 Aircraft Operations.....	2
1.1.3.3 Personnel .....	2
1.2 PURPOSE AND NEED.....	2
1.3 SUMMARY OF ENVIRONMENTAL STUDY REQUIREMENTS.....	5
1.3.1 National Environmental Policy Act.....	5
1.3.2 Interagency and Intergovernmental Coordination for Environmental Planning.....	5
1.3.3 Air Conformity Requirements.....	6
2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES.....	7
2.1 PROPOSED ACTION.....	7
2.1.1 Proposed New Construction.....	7
2.1.2 Proposed Building Additions .....	7
2.1.4 Proposed Parking and Circulation Improvements .....	10
2.2 ALTERNATIVES .....	10
2.2.1 Siting Alternatives for Short-Term Construction Projects .....	10
2.2.2 No Action Alternative .....	11
3.0 AFFECTED ENVIRONMENT .....	12
3.1 SAFETY 12	
3.1.1 Definition of Resource .....	12
3.1.2 Existing Conditions .....	12
3.2 AIR QUALITY .....	13
3.2.1 Definition of Resource .....	13
3.2.2 Existing Conditions .....	14
3.2.2.1 Climate .....	14
3.2.2.2 Local Air Quality.....	15
3.2.2.3 Emissions at Kirtland AFB.....	16
3.3 NOISE 16	
3.3.1 Definition of Resource .....	16
3.3.2 Existing Conditions .....	17
3.4 LAND USE.....	17
3.4.1 Definition of Resource .....	17
3.4.2 Existing Conditions .....	18
3.4.2.1 Regional Land Use .....	18
3.4.2.2 Local Land Use.....	18
3.4.2.3 Kirtland AFB Land Use.....	18
3.5 GEOLOGICAL RESOURCES .....	19
3.5.1 Definition of Resource .....	19
3.5.2 Existing Conditions .....	19
3.5.2.1 Regional Setting .....	19
3.5.2.2 Kirtland AFB.....	21
3.6 WATER RESOURCES.....	22
3.6.1 Definition of Resource .....	22
3.6.2 Existing Conditions .....	22
3.6.2.1 Regional Setting .....	22
3.6.2.2 Kirtland AFB.....	23
3.7 BIOLOGICAL RESOURCES.....	24

3.7.1	Definition of Resource .....	24
3.7.2	Existing Conditions .....	25
3.7.2.1	Regional Setting .....	25
3.7.2.2	Kirtland AFB .....	28
3.7.2.3	Special Status Species .....	28
3.8	TRANSPORTATION AND CIRCULATION .....	29
3.8.1	Definition of Resource .....	29
3.8.2	Existing Conditions .....	29
3.8.2.1	Regional and Local Circulation .....	29
3.8.2.2	Kirtland AFB Circulation .....	29
3.8.2.3	Kirtland AFB Parking .....	30
3.9	VISUAL RESOURCES .....	30
3.9.1	Definition of Resource .....	30
3.9.2	Existing Conditions .....	30
3.9.2.1	Regional Visual Character .....	30
3.9.2.2	Kirtland AFB .....	30
3.10	CULTURAL RESOURCES .....	31
3.10.1	Definition of Resource .....	31
3.10.2	Historical Context .....	31
3.10.2.1	Regional History .....	31
3.10.2.2	Kirtland AFB .....	32
3.10.3	Existing Conditions .....	32
3.11	SOCIOECONOMICS .....	33
3.11.1	Definition of Resource .....	33
3.11.2	Existing Conditions .....	33
3.11.2.1	Population .....	33
3.11.2.2	Job Growth and Employment .....	33
3.11.2.3	Kirtland AFB .....	34
3.12	HAZARDOUS MATERIALS AND WASTES .....	34
3.12.1	Definition of Resources .....	34
3.12.2	Existing Conditions .....	35
4.0	ENVIRONMENTAL CONSEQUENCES .....	37
4.1	SAFETY .....	37
4.1.1	Approach to Analysis .....	37
4.1.2	Proposed Action .....	37
4.1.3	No Action .....	37
4.2	AIR QUALITY .....	38
4.2.1	Approach to Analysis .....	38
4.2.2	Proposed Action .....	38
4.2.3	No Action .....	39
4.3	NOISE .....	39
4.3.1	Approach to Analysis .....	39
4.3.2	Proposed Action .....	39
4.3.3	No Action .....	39
4.4	LAND USE .....	39
4.4.1	Approach to Analysis .....	39
4.4.2	Proposed Action .....	40
4.4.3	No Action .....	40
4.5	GEOLOGICAL RESOURCES .....	40
4.5.1	Approach to Analysis .....	40
4.5.2	Proposed Action .....	40
4.5.3	No Action .....	41
4.6	WATER RESOURCES .....	41
4.6.1	Approach to Analysis .....	41

4.6.2	Proposed Action .....	41
4.6.3	No Action .....	42
4.7	BIOLOGICAL RESOURCES .....	42
4.7.1	Approach to Analysis .....	42
4.7.2	Proposed Action .....	43
4.7.3	No Action .....	44
4.8	TRANSPORTATION AND CIRCULATION .....	44
4.8.1	Approach to Analysis .....	44
4.8.2	Proposed Action .....	44
4.8.3	No Action .....	45
4.9	VISUAL RESOURCES .....	45
4.9.1	Approach to Analysis .....	45
4.9.2	Proposed Action .....	45
4.9.3	No Action .....	45
4.10	CULTURAL RESOURCES .....	45
4.10.1	Approach to Analysis .....	45
4.10.2	Proposed Action .....	46
4.10.3	No Action .....	46
4.11	SOCIOECONOMICS .....	46
4.11.1	Approach to Analysis .....	46
4.11.2	Proposed Action .....	47
4.11.3	No Action Alternative .....	47
4.12	HAZARDOUS MATERIALS AND WASTES .....	47
4.12.1	Approach to Analysis .....	47
4.12.2	Proposed Action .....	48
4.12.3	No Action .....	48
5.0	CUMULATIVE IMPACTS .....	49
6.0	SUMMARY OF FINDINGS .....	50
7.0	PERMITS AND NOTIFICATIONS .....	55
8.0	REFERENCES .....	56
9.0	LIST OF PREPARERS .....	59

#### List of Figures

Figure 1	Vicinity Map, New Mexico Air National Guard .....	3
Figure 2	Existing Conditions, New Mexico Air National Guard .....	4
Figure 3	Proposed Short-Term Construction Projects at NMANG .....	8
Figure 4	Existing Land Use, New Mexico Air National Guard .....	20

#### List of Tables

Table 1	Summary of Proposed Short-Term Construction Projects for the 150FW .....	9
Table 2	National and State Ambient Air Quality Standards .....	14
Table 3	Criteria Pollutant Thresholds .....	15
Table 4	Meteorological Data for Kirtland AFB Area .....	16
Table 5	Air Emissions Inventory of Bernalillo County .....	17
Table 6	Existing Emissions at Kirtland AFB .....	17
Table 7	Definitions of Land Use Categories at NMANG .....	19

#### List of Appendices

Appendix A	Sample IICEP Consultation Letter
Appendix B	List of IICEP Agencies Contacted
Appendix C	Response Letters from IICEP Agencies

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## 1.0

## INTRODUCTION

This environmental assessment (EA) is being prepared to evaluate the potential impacts on environmental and human resources that would result from nine separate but related actions proposed by the 150<sup>th</sup> Fighter Wing (150FW) at Kirtland Air Force Base (AFB) near Albuquerque, New Mexico. These nine actions consist of the following:

- construct a new Composite Support Facility on Ballfield 1 between Air Guard Drive and Falcon Drive in the eastern portion of the New Mexico Air National Guard (NMANG) base (approximately 15,800 square feet);
- build an addition on the south side of the Composite Medical Training Facility, Building 1079 (approximately 1,972 square feet);
- construct a new Security Forces Facility on vacant land between Air Guard Drive and Randolph Drive in the eastern portion of the NMANG base (approximately 6,500 square feet);
- build an addition on the west and north of the Vehicle Maintenance Facility, Building 1058 (approximately 2,836 square feet);
- demolish the Communications Building, 1045;
- demolish the Finance Building, 1053;
- extend C Street between Falcon Drive and Randolph Drive;
- demolish the Security Forces Building, 1059; and
- relocate the static displays from their current location east of Falcon Drive near Building 1054 to the intersection of the extended C Street and Randolph Drive.

These nine actions could proceed independently of each other, although the proposal is for all to be fully implemented within the next 3 to 4 years. These are being analyzed together in one EA because the proponent is the same for all actions and to assure that any cumulative impacts of the nine actions are addressed.

This document is part of the United States Air Force (USAF) Environmental Impact Analysis Process (EIAP) as set forth in the 32 CFR 989 rules. This EIAP implements: the National Environmental Policy Act (NEPA) of 1969; the regulations implementing NEPA promulgated by the President's Council on Environmental Quality (CEQ) as Title 40 of the Code of Federal Regulations (CFR) § 1500-1508; and the Department of Defense (DOD) Directive 6050.1.

### 1.1 Background

#### 1.1.1 Location

The NMANG leases 104 acres from Kirtland AFB in Albuquerque, New Mexico. Kirtland AFB is located at Albuquerque International Airport. The airport is located in the southeastern portion of Albuquerque, and the city is in the approximate geographic center of

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New Mexico. Kirtland AFB borders the airport on the north, east, and south sides. The NMANG parcel is in the northwest corner of the base's cantonment area, as shown in Figure 1.

### 1.1.2 History

The NMANG was recognized by the Federal government on 7 July 1947, as the 188<sup>th</sup> Fighter Bomber Squadron. The mission of the unit was changed from fighter/bomber to fighter/interceptor in 1948. The 188th was called into active duty for the Korean Conflict between December 1950 and November 1952. In 1957, the unit was redesignated the 150<sup>th</sup> Tactical Fighter Group, and in June 1968 the group was deployed to Vietnam and South Korea. Elements of the group were also deployed to Saudi Arabia between December 1990 and May 1991 in support of Operation Desert Storm. In 1992, the group was renamed the 150<sup>th</sup> Fighter Group. In 1994, it became the 150FW.

### 1.1.3 Current Operations

#### 1.1.3.1 Mission

The 377 ABW is the host unit for the NMANG, which is a tenant at Kirtland AFB. The NMANG installation requires specific facilities to accommodate the 150FW's F-16 aircraft. In addition to the 150FW and its 13 subordinate units, the NMANG State Headquarters is located on the NMANG property at Kirtland AFB.

The 150FW provides combat-ready F-16 C/D LANTIRN aircraft, mission-ready pilots, and all mobility support personnel and equipment required to deploy to worldwide theaters. Flight training is accomplished at home station and various locations within and outside of the continental United States. Additionally, the 150FW provides Defense System Evaluation F-16 aircraft support to White Sands Missile Range, located near Alamogordo, New Mexico.

#### 1.1.3.2 Aircraft Operations

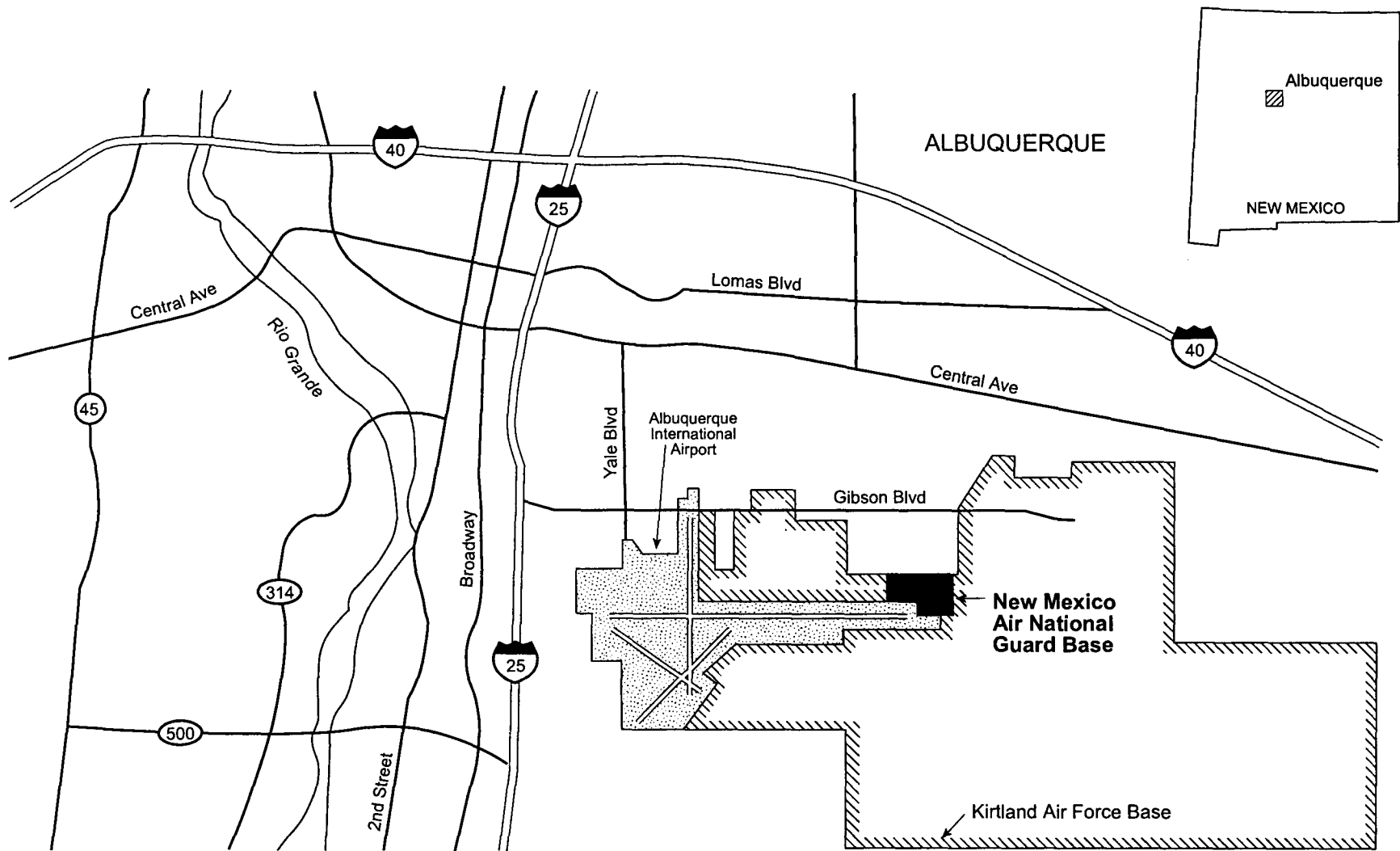
The 150FW currently has 24 F-16 C/D LANTIRN fighters and 1 C-26 support aircraft.

#### 1.1.3.3 Personnel

As of 31 July 2000, the 150FW had 982 assigned persons; 1000 persons are authorized. Of the assigned staff, 300 are full-time technicians, the remaining 682 report for Unit Training Assemblies (UTA).

## 1.2 PURPOSE AND NEED

Facility requirements for Air National Guard units are determined by the requirements of their flying missions. The current flying mission of the 150FW, as described in the previous section, is supported by 24 F-16s. The NMANG installation requires specific facilities to accommodate these F-16s. Existing facilities of the NMANG base are shown in Figure 2. The existing operations and training facilities are undersized, and the unit cannot adequately perform those functions, as described below. Operating and training in a facility smaller than required can adversely affect aircraft maintenance, adversely limit training time, degrade



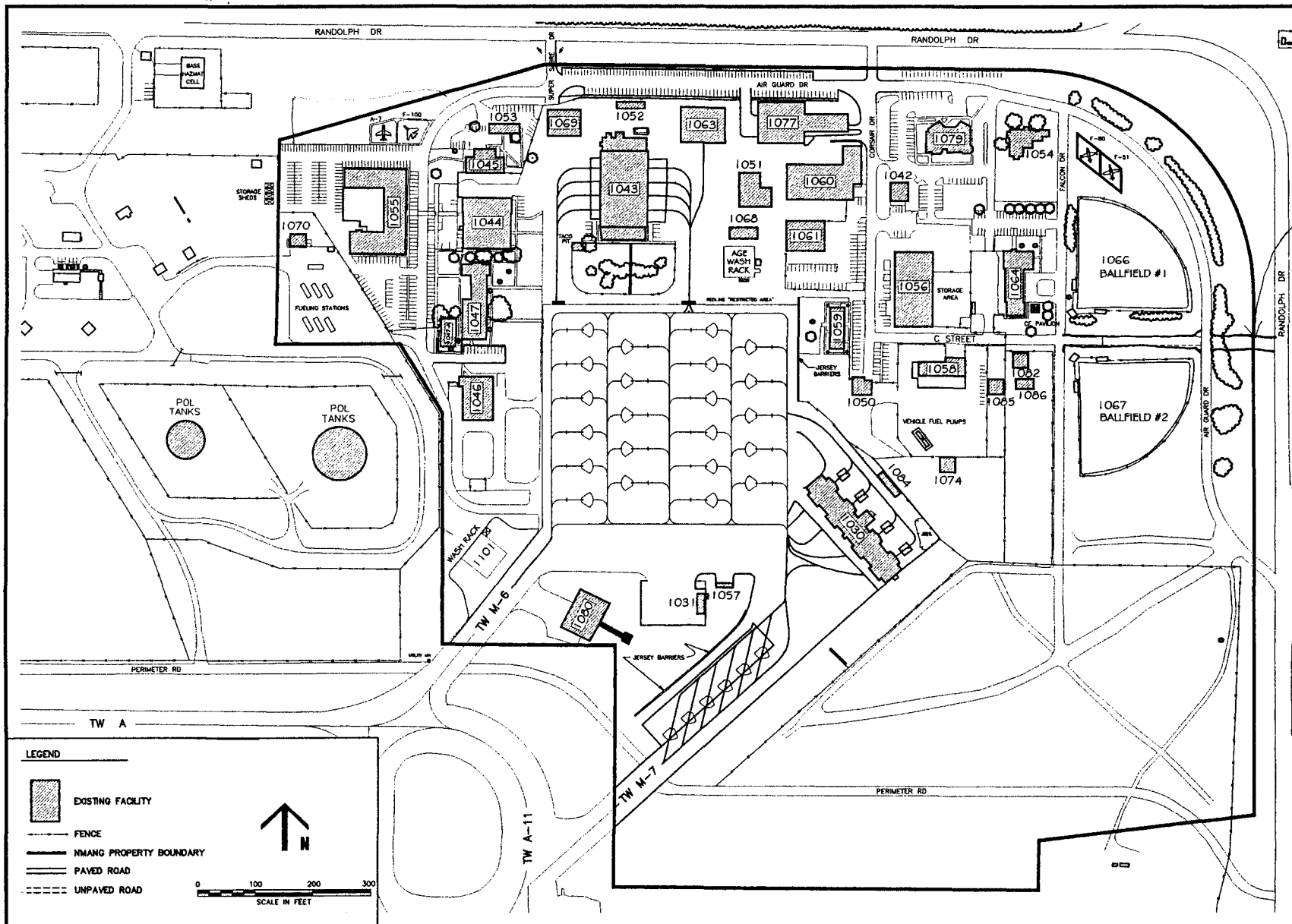
Source: New Mexico Air National Guard, Master Plan, October 1995

September 2002

Final EA

# VICINITY MAP NEW MEXICO AIR NATIONAL GUARD

Figure  
1



BW Leave  
RR spur is property boundary

September 2002

Final EA

# EXISTING CONDITIONS NEW MEXICO AIR NATIONAL GUARD

Figure  
2

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readiness, and limit the unit from reaching full operational capability. Therefore, the 150FW needs to expand existing facilities or construct new facilities to meet current requirements.

In addition to existing facilities which are undersized for operational requirements, a couple of facilities are considered “substandard” because of age, structural instability, or antiquated infrastructure, as described in Section 4.1, Safety. Impacts of occupying and using substandard facilities often include reduction in operational efficiency or training opportunities due to maintenance problems and increased maintenance costs, difficulty in maintaining compliance with environmental and health and safety regulations, damage to property, low unit morale, and higher risk of injury or loss of life. Therefore, some facilities or internal systems require replacement rather than repair. In these cases, replacement of facilities would be more cost effective, would benefit the unit mission, or would be safer than repairing existing facilities or internal systems.

### 1.3 SUMMARY OF ENVIRONMENTAL STUDY REQUIREMENTS

#### 1.3.1 National Environmental Policy Act

NEPA requires Federal agencies to take into consideration the potential environmental consequences of proposed actions in their decision-making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed Federal decisions. The CEQ has been established under NEPA to implement and oversee Federal processes. The CEQ has issued the Regulations for Implementing Procedural Provisions of NEPA (40 CFR § 1500-1508) (CEQ 1978).

These regulations specify that an EA be prepared to:

- briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a Finding of No Significant Impact;
- aid in an agency’s compliance with NEPA when no EIS is necessary; and
- facilitate the preparation of an EIS when one is necessary.

To comply with NEPA and other pertinent environmental requirements (e.g., Endangered Species Act, National Historic Preservation Act) and to assess impacts on the environment, the decision-making process includes the development of an EA of environmental issues associated with the proposed short-term construction projects at the NMANG base. Because the projects are located on Air Force property, compliance is also required with the Air Force’s implementing regulations at 32 CFR 989.

#### 1.3.2 Interagency and Intergovernmental Coordination for Environmental Planning

NEPA and CEQ regulations require intergovernmental notifications prior to making any decision on environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the Air National Guard must notify appropriate Federal, state, and local agencies, and allow them sufficient time to evaluate the potential environmental impacts associated with the proposed action. Comments from these agencies are subsequently incorporated into the environmental impact analysis process.

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The 150FW distributed the Description of the Proposed Action and Alternatives (DOPAA) to appropriate Federal, state, and local agencies, Native American organizations, and individuals (hereafter collectively referred to as IICEP agencies). The 150FW requested that the IICEP agencies review the DOPAA and provide the 150FW with comments. A sample of the letter distributed to the IICEP agencies receiving the DOPAA is provided in Appendix A. The list of IICEP agencies receiving the DOPAA can be found in Appendix B. Appendix C contains copies of responses received during the IICEP process.

### 1.3.3 Air Conformity Requirements

In addition to these requirements, Federal agencies are required to determine the conformity of proposed actions with respect to State Implementation Plans (SIPs) for attainment of air quality goals. Under the Clean Air Act Amendments (CAAA) of 1990, the United States Environmental Protection Agency (USEPA) promulgated regulations such as 40 CFR § 51, Subpart W, which require the proponent of a proposed action to perform an analysis to determine if the proposed action conforms with the SIP. To comply with this requirement and to determine conformity, the decision-making process includes a study of air emissions associated with the proposed action.

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## 2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

### 2.1 PROPOSED ACTION

Specific components of the short-term construction program are described below and shown in Figure 3. Table 1 summarizes the projects associated with the proposed action.

#### 2.1.1 Proposed New Construction

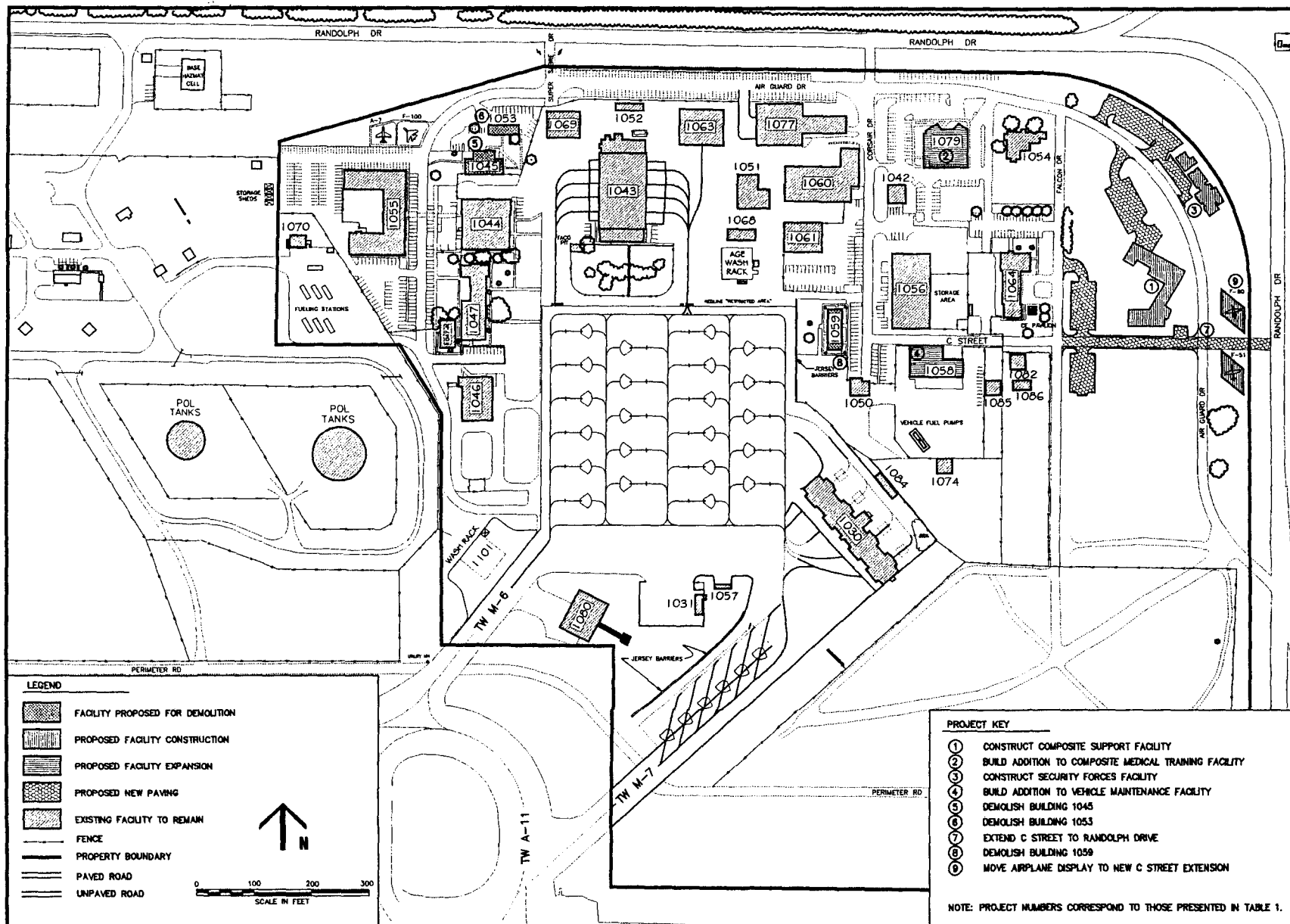
**Composite Support Facility.** This facility would be constructed on Ballfield 1 between Air Guard Drive and Falcon Drive in the eastern portion of the NMANG base. This 11,400 square foot (SF) building would have a reinforced concrete foundation and floor slab and steel-framed masonry walls and roof. Parking lots would be constructed adjacent to the new building to provide approximately 58 parking spaces. Parking spaces and associated driveways would require approximately 20,000 square feet. The Composite Support Facility would support the daily operations and weekend training requirements of the unit's Communications, Audio-Visual, Information Management, and State Headquarters functions. Construction of this facility would permit the demolition of Buildings 1045 and 1053, as described below.

**Security Forces Facility.** This facility would be constructed on undeveloped land between Air Guard Drive and Randolph Drive in the northeast corner of the NMANG base. This 6,500 SF building would have a reinforced concrete foundation and floor slab with masonry walls and a seam metal roof. A parking lot would be constructed adjacent to the new building. This parking lot and associated driveways would occupy approximately 6,000 SF. The Security Forces Facility is required to support the daily operations and weekend training requirements of the unit's Security Forces function. Functional areas that are required include command, supervision, training, administration, an arms vault, and storage. Construction of this facility would permit the demolition of Building 1059, as described below.

#### 2.1.2 Proposed Building Additions

**Building 1079.** An addition would be built on the south of this building, the Composite Medical Training Facility. The 1,972 SF addition would consist of a reinforced concrete foundation and floor slab, steel framing, masonry walls, and a built-up roofing system. Associated parking, sidewalks, and landscaping would be added. The existing Composite Medical Training Facility was designed for approximately half of the current total assigned personnel. Offices that were designed for other purposes (e.g., radiology, medical supply storage) have been converted to office space.

**Building 1058.** An addition would be built on the west and north of this building, the Vehicle Maintenance Facility. The 2,836 SF addition would consist of a reinforced concrete foundation and floor slab, steel framing, masonry walls, and a standing seam, pitched metal roof. Associated parking and landscaping would be added. The Vehicle Maintenance function currently occupies a structurally inadequate facility that is too small. The



September 2002

Final EA

# PROPOSED SHORT-TERM CONSTRUCTION PROJECTS AT NMANG

Figure  
3

administrative, training, break, and classroom areas occupy approximately half of the space required to accomplish training and administrative functions.

Table 1. Summary of Proposed Short-Term Construction Projects for the 150FW

Key*	Project Component	Current Use	Proposed Use
1	Construct Composite Support Facility	Ballfield 1	A 15,800 SF building to house the Communications, Audio-Visual, Information Management, and State Headquarters functions
2	Build addition to Composite Medical Training Facility	Sidewalk and landscaping	A 1,972 SF addition to house administrative and medical activities
3	Construct Security Forces Facility	Vacant land	A 6,500 SF building to house the Security Forces functions including command, supervision, training, administration, an arms vault, and storage
4	Build addition to Vehicle Maintenance Facility	Driveway and parking associated with Vehicle Maintenance Facility	A 2,836 SF addition to house administrative, training, break, and classroom space.
5	Demolish Building 1045	A 5,320 SF building that houses the Communications function	Parking
6	Demolish Building 1053	A 1,940 SF building that houses the Finance function	Parking
7	Extend C Street	Unpaved road	Paving approximately 11,000 SF to connect Randolph Drive with the current terminus of C Street
8	Demolish Building 1059	A 4,000 SF building that houses the Security Forces function	Landscaping or paving and marking as a "no parking" area
9	Relocate static displays	Vacant land	Formal entrance to base enhanced by static displays
* Numbers correspond to those on Figure 3.			

### 2.1.3 Proposed Building Demolition

**Building 1045.** This building currently houses the Communications function. This 5,320 SF building would be demolished when the Communications function is relocated to the proposed Composite Support Facility. Building 1045 is approximately 50 years old. The security, fire detection/suppression, plumbing, and heating/ventilation/air conditioning systems are inadequate, failing, and in need of immediate replacement. The building is incapable of properly supporting a modern data processing system, and insulation is inadequate for the climate. After demolition of Building 1045, the area would be converted to parking.

**Building 1053.** This 1,940 SF building would be demolished when the Finance function is transferred to Building 1055. This will occur when the State Headquarters and

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Communications functions are relocated to the proposed Composite Support Facility. After demolition of Building 1053, the area would be converted to parking.

Building 1059. This building would be demolished after its function is transferred to the proposed Security Forces Facility. The Security Forces function is currently operating in a 4,000 SF, 25-year-old facility that is only 60 percent of the authorized and required space. Utility systems do not meet National Code standards, and the facility is currently within the airfield clear zone. The space occupied by Building 1059 would either be landscaped or paved and marked as a "no parking" area.

#### 2.1.4 Proposed Parking and Circulation Improvements

C Street. This street would be extended between Falcon Drive and Randolph Drive. The paved section of C Street currently ends at the baseball field dugouts. A dirt road continues east from this point to Air Guard Drive. Extending C Street would eliminate traffic congestion. The extension of C Street would be combined with relocating the static displays from the Air Guard Drive / Falcon Road intersection to the proposed intersection of C Street and Randolph Drive. This would provide a formal entrance to the State Headquarters in the proposed Composite Support Facility.

## 2.2 ALTERNATIVES

### 2.2.1 Siting Alternatives for Short-Term Construction Projects

The NMANG considered several alternatives to the proposed action. One alternative is to demolish Buildings 1045 and 1053 and construct replacement facilities in the same area. Because there is no adequate space in existing facilities to house the functions of these buildings during the demolition and construction processes, the NMANG determined that this alternative was infeasible. No facility could be constructed on the site of Building 1059 because of its location in the airfield clear zone. Similarly, enlarging and renovating Building 1059 is not an option because of its location.

Accepting that new construction can only occur on areas that have not been previously developed, the primary constraint facing the NMANG is the limited area in its lease with Kirtland AFB. The majority of the NMANG base is already built out, and the few areas available for development are concentrated in the eastern portion of the base. Potential locations include the area between Air Guard Drive and the boundaries of the NMANG base and the area between Falcon Drive and Air Guard Drive. The former is a narrow area, which would only allow space for a small building, such as the Security Forces Facility. Most of the area south of C Street is within the airfield clear zone; no facilities are permitted in this area.

Extending C Street is the most logical choice for transportation improvements to the NMANG base. The existing C Street dead-ends and turns into a dirt road that continues to Air Guard Drive. Creating any other new road is limited by the same constraints as discussed for building construction above.

For these reasons, the only alternative that meets the purpose and need of the action is the proposed action.

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### 2.2.2 No Action Alternative

Under the no action alternative, the NMANG would not implement any short-term construction projects. No new facilities would be constructed, and no existing facilities would be expanded or demolished. The NMANG would continue to repair and maintain existing facilities. However, the NMANG would continue to operate and train in facilities smaller than the authorized and required space. As required in the CEQ regulations, impacts associated with the no action alternative have been analyzed.

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### 3.0 AFFECTED ENVIRONMENT

This section describes relevant existing environmental conditions for resources potentially affected by the proposed action and the no action alternative described in Section 2. Analysis of the affected environment provides a framework for understanding the potential direct, indirect, and cumulative effects of the proposed action and the no action alternative.

In compliance with guidelines contained in the NEPA, CEQ regulations, and 32 CFR 989, the description of the affected environment focuses only on those resource areas potentially subject to impacts. This EA addresses potential environmental effects for the following resource areas: safety, air quality, noise, land use, geological resources, water resources, biological resources, transportation and circulation, visual resources, cultural resources, socioeconomics, and hazardous materials and wastes.

The following subsections contain definitions of each resource, a description of the associated region of influence (ROI) that may be impacted, and existing conditions within the ROI.

#### 3.1 SAFETY

##### 3.1.1 Definition of Resource

Safety is defined by injuries or fatalities to 150FW staff or members of the public. Nonfatal injuries are measured by the number of days the injured party missed work as a result of the injury. Injuries can result from conducting aircraft maintenance and associated activities as well as performing administrative duties.

Changes to aircraft flight operations are not proposed under either alternative. Therefore aircraft safety is not addressed in this EA.

##### 3.1.2 Existing Conditions

The 150FW has a very good safety record. In FYs 1999 and 2000, the 150FW lost only 15 person-days. Approximately 20 minor injuries were recorded during this period. These minor injuries each resulted in less than 1 person-day of lost work. Examples of minor injuries include slipping on a wet floor, straining back muscles from lifting heavy objects, and falling off a ladder. Many of these minor injuries did not require medical treatment (150FW 2000a). The safety record of the 150FW is especially good considering many of the undersized and substandard facilities used by the NMANG.

Individuals, supervisors, managers, and commanders are expected to give full support to safety efforts. In the event of a mishap, the incidents are investigated, lessons learned are documented, and corrective action is taken. Safety is an integrated part of mission performance at Kirtland AFB, and supervisors and managers are strongly encouraged to prevent mishaps. The Kirtland Disaster Preparedness Operations Plan (OPLAN 335-1) establishes procedures to respond to and recover from disasters or accidents, created or natural, that affect assigned and tenant organizations at Kirtland AFB, as well as the

surrounding area. This plan includes procedures for responding to hazardous material spills and severe weather (Ogden Undated).

### 3.2 AIR QUALITY

#### 3.2.1 Definition of Resource

Air quality is defined as ambient air concentrations of specific pollutants determined by the USEPA to be of concern to the health and welfare of the general public. Under the CAAA, USEPA established the National Ambient Air Quality Standards (NAAQS) for these "criteria" pollutants. These standards represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect human health and welfare. The criteria pollutants include carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), oxides of nitrogen (NO<sub>x</sub>), ozone (O<sub>3</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), and lead (Pb).

The NAAQS are presented in terms of concentration (e.g., parts per million) averaged over periods of time, ranging from 1 hour to 1 year depending on the degree of potential health effects. States and local agencies may set their own standards, as long as they are at least as stringent as the NAAQS. New Mexico established its own set of standards in 1995: the New Mexico Ambient Air Quality Standards (NMAAQs). The NAAQS and the NMAAQs are summarized in Table 2.

Table 2. National and State Ambient Air Quality Standards

Air Pollutant	Averaging Time	NAAQS		NMAAQs	
		Primary	Secondary	Primary	Secondary
CO	8-hour	9 ppm	---	8.7 ppm	---
	1-hour	35 ppm	---	13.1 ppm	---
NO <sub>x</sub>	AAM	0.053 ppm	0.053 ppm	0.05 ppm	0.053 ppm
	24-hour	---	---	0.10 ppm	---
SO <sub>2</sub>	AAM	0.03 ppm	---	0.02 ppm	---
	24-hour	0.14 ppm	---	0.10 ppm	---
	3-hour	---	0.5 ppm	---	0.5 ppm
PM <sub>10</sub>	AAM	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	---	50 µg/m <sup>3</sup>
	24-hour	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	---	150 µg/m <sup>3</sup>
Total Suspended Particulates (TSP)	AGM	---	---	60 µg/m <sup>3</sup>	---
	30-day	---	---	90 µg/m <sup>3</sup>	---
	7-day	---	---	110 µg/m <sup>3</sup>	---
	24-hour	---	---	150 µg/m <sup>3</sup>	---
O <sub>3</sub>	1-hour	0.12 ppm	0.12 ppm	0.12 ppm	0.12 ppm
Pb	Calendar Quarter	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
AAM = annual arithmetic mean AGM = annual geometric mean ppm = parts per million µg/m <sup>3</sup> = micrograms per cubic meter					

States are required by the USEPA to establish a SIP designed to eliminate or reduce emissions exceeding the NAAQS and to ensure that air quality conditions consistently comply with the NAAQS. The CAAA prohibits Federal agencies from supporting any activities that do not conform to a SIP approved by the USEPA. Regulations under the CAAA, known as the General Conformity Rule, state that activities must not:

- cause or contribute to any new violation of any standard;
- increase the frequency or severity of an existing violation; or
- delay timely attainment of any standards, interim emission reductions, or milestones as stated in the SIP.

This General Conformity Rule applies only to those areas in nonattainment of the NAAQS. The General Conformity Rule is applicable to projects with a net increase in emissions above the significance thresholds for criteria pollutants and their precursors (Table 3).

Table 3. Criteria Pollutant Thresholds

Pollutant	Threshold (tons/year)
CO	100
NO <sub>x</sub>	100
VOC	100
SO <sub>2</sub>	100
PM <sub>10</sub>	100
Pb	25
VOC = volatile organic compounds	
Source: Ogden 2000	

The USEPA delegated air quality compliance authority to the State of New Mexico. The state, in turn, delegated compliance authority to the regional government. The Bernalillo County Health Department and the City of Albuquerque Air Pollution Control Division, Environmental Health Department, jointly administer and enforce the New Mexico Air Quality Control Act for the area, including Kirtland AFB.

### 3.2.2 Existing Conditions

#### 3.2.2.1 Climate

The climate of Albuquerque is dry with hot summers and cold winters. Meteorological data obtained from measurements taken at the Albuquerque International Airport are summarized in Table 4. High temperatures average 90 degrees Fahrenheit (°F) and low temperatures average 58°F during the summer months. In winter, high temperatures reach roughly 50°F with low temperatures around 24°F. Total annual precipitation ranges from 8 inches in Bernalillo County's arid valley and mesa areas to 30 inches in the mountains east of Kirtland AFB. Half of the average annual precipitation falls from July to October, with an average of 44 heavy thunderstorms occurring each year, mostly during this period (Ogden 2000). Total annual snowfall ranges from approximately 10 inches in the valley to 3 feet in the foothills

and up to 10 feet in the higher mountains. The snow season in the valley extends from November to early April, but snow seldom stays on the ground for more than 1 day.

Table 4. Meteorological Data for Kirtland AFB Area<sup>1</sup>

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Temperature (°F)												
Avg. Maximum	47.9	54.9	68.8	77.8	85.1	90.5	92.1	86.8	82.2	69.5	60.2	47.7
Avg. Minimum	23.0	28.9	36.7	45.0	52.5	60.6	65.0	61.7	56.0	43.8	32.5	22.5
Avg. Monthly <sup>2</sup>	35.5	41.9	52.8	61.4	68.8	75.6	78.6	74.3	69.4	56.7	46.4	35.1
Rel. Humidity (%)												
11 AM	48	44	26	19	18	20	32	38	33	36	28	43
5 PM	37	32	22	12	11	13	27	28	23	30	22	40
Precipitation (in.) <sup>3</sup>												
Rain-Avg. Monthly	0.57	0.35	0.48	T	0.02	0.02	1.51	0.48	0.31	0.97	T	0.28
Snow-Avg. Monthly	3.4	3.2	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	2.5

<sup>1</sup> Length of record is the period of 1961 to 1990 from data collected at the Albuquerque International Airport.  
<sup>2</sup> Average maximum, minimum, and monthly temperatures are for the period of 1960 to 1989.  
<sup>3</sup> Average monthly precipitation based on the period of 1960 to 1989.  
T = trace amount  
Source: National Oceanic and Atmospheric Administration 1990

Prevailing winds in the area are from the north during the winter months and from the south along the river valley in the summer. Average annual wind speed is nine miles per hour, with spring being the windy season.

### 3.2.2.2 Local Air Quality

The Albuquerque metropolitan area and Kirtland AFB are within New Mexico's Air Quality Control Region 2, which is one of eight regions in the state. Region 2 includes all of northwestern New Mexico. The City of Albuquerque is currently in attainment of all Federal air quality standards and in maintenance status for CO. The term "in maintenance" is used because the City was previously not in attainment of air quality standards for CO. The City has reestablished attainment of the standards, and is now working at maintaining this attainment status.

Air quality in and around the project area is a function of normal climatic conditions in the region, combined with the concentrations of airborne pollutants from a variety of sources. Table 5 summarizes the 1995 emissions inventory for Bernalillo County, New Mexico.

Table 5. Air Emissions Inventory of Bernalillo County

Source Category	Emissions (tons/year)				
	VOC <sup>a</sup>	CO <sup>b</sup>	NO <sub>x</sub> <sup>a</sup>	SO <sub>x</sub> <sup>a</sup>	TSP <sup>a</sup>
Transportation	19,258	100,414	12,860	245	2,564
Residential	1,151	10,112	747	20	1,120
Public Roadway (dust)	NA	0	NA	NA	38,315
Industrial	1,640	125	2,007	10	1,475
Commercial	NA	80	327	2	16
Agricultural	NA	0	NA	NA	13
Construction/Development	NA	0	NA	NA	17,281
Solid Waste Disposal	6	156	7	NA	<1
Miscellaneous	99	220	19	3	63
Total	22,154	111,107	15,967	280	60,847
SO <sub>x</sub> = oxides of sulfur a = 1993 data b = 1995 data NA = No data available Sources: Albuquerque Environmental Health Department (AEHD) 1995a, AEHD 1995b					

### 3.2.2.3 Emissions at Kirtland AFB

The Emissions and Dispersions Modeling System was used to calculate emissions from aircraft, ground support equipment, aerospace ground equipment, auxiliary power units, and privately owned vehicles (POVs) at Kirtland AFB. Results of this modeling are shown in Table 6.

Table 6. Existing Emissions at Kirtland AFB

Source	Emissions (tons/year)				
	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
Aircraft	18.66	10.20	22.54	1.46	10.96
Support Equipment	192.38	18.53	6.62	0.08	0.48
POVs	0.14	0.02	0.01	0.0	0.0
Total	211.19	28.76	29.17	1.54	11.44
Source: Ogden 2000					

## 3.3 NOISE

### 3.3.1 Definition of Resource

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to noise varies according to the type and characteristics of the noise source, the distance between the noise source and the receptor, the sensitivity of the receptor, and the time of day.

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Due to wide variations in sound levels, sound is expressed in decibels (dB), which is a unit of measure based on a logarithmic scale. Thus, a 10-dB increase in noise corresponds to a 100-percent increase in perceived loudness. Under most conditions, a 5-dB change is necessary for noise increases to be noticeable. Sound measurement is further refined by using the "A-weighted" dB (dBA) scale that emphasizes the range of sound frequencies that are most audible to the human ear (i.e., between 1000 and 8000 cycles per second). Noise levels resulting from multiple, single-events are used to characterize the noise environment at Kirtland AFB and are measured in a day-night average dBA level (DNL).

A noise-sensitive receptor is defined as a land use where people involved in indoor or outdoor activities may be subject to stress or considerable interference from noise. Such locations or facilities often include residential dwellings, hospitals, nursing homes, educational facilities, and libraries. Sensitive receptors may also include noise-sensitive domestic or wildlife species.

### 3.3.2 Existing Conditions

Localized sources of noise in the vicinity of the NMANG property include aircraft operations at Albuquerque International Airport and Kirtland AFB and vehicle traffic at Kirtland AFB. Commercial and military aircraft operations are the primary sources of noise in the area (Ogden Undated). Albuquerque International Airport requires that all aircraft implement noise abatement procedures including restricted use of certain runways for certain aircraft at certain times, restrictions of time and locations of night engine runups, noise monitoring at certain sites, and monitoring of land use patterns for compatibility with the City of Albuquerque Land Use Guidance.

All military and commercial aircraft using Albuquerque International Airport were modeled in 1996 using the model INM 5.1. The 1996 noise contours were updated in 1999 for an EA of a proposed runway extension; these are the most recent noise contours for commercial flights at Albuquerque International Airport. Results of modeling noise from military aircraft operations at Kirtland AFB using the models NOISEMAP and RNM were combined with the INM modeled data. Noise levels at the NMANG property vary between approximately 68 and 77 DNL (Ogden 2000).

## 3.4 LAND USE

### 3.4.1 Definition of Resource

Land use is the classification of either natural or human-modified activities occurring at a given location. Human-modified classifications include residential, commercial, industrial, transportation, communication and utilities, agricultural, institutional, and recreational land uses. Management plans and zoning regulations determine the type and extent of land use allowable in specific areas and protect specially designated or environmentally sensitive areas.

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### 3.4.2 Existing Conditions

#### 3.4.2.1 Regional Land Use

In the vicinity of Kirtland AFB, land use varies from urban to open space. Kirtland AFB is bordered to the north and west by the City of Albuquerque and its suburbs. South of the installation is the Isleta Indian Pueblo with the Cibola National Forest bordering to the east and the Sandia Military Reservation located just southeast of Kirtland AFB. These areas, along with the area northeast and east of the installation, generally consist of open spaces and forests (Ogden Undated).

#### 3.4.2.2 Local Land Use

Kirtland AFB shares the airfield complex with Albuquerque International Airport, in the southeast portion of the city. The north and east sections of Albuquerque are residential areas containing both single-family and multi-family dwellings. These neighborhoods include public and private grade schools and parks. The University of New Mexico, the state fairgrounds, and commercial businesses comprise the central business district, which lies adjacent to the north and west boundaries of Kirtland AFB. The southwest section of the city contains commercial, industrial, and residential land uses, as well as the Rio Grande Zoological Park. Land uses east of the Rio Grande, which runs north-to-south through the city, generally vary from vacant marshland to commercial and industrial. To the west of the river, land uses consist primarily of single-family residential with some commercial and industrial (Ogden 2000).

#### 3.4.2.3 Kirtland AFB Land Use

The airfield complex, including the portion of Kirtland AFB shared with Albuquerque International Airport, is located in the northwest corner of the base. Airfield operations and aircraft support facilities are concentrated in the airfield complex area. The remainder of intensive development at the base (e.g., administrative, housing, medical, and commercial services) is located east of the airfield complex but is still limited to the northwest portion of Kirtland AFB, in the cantonment area. The base golf course and landfill are located approximately 3 miles south of the cantonment area. The remaining areas of the base (approximately 80 percent of the base land area) are largely dedicated to research and development activities, sensitive military uses, and widely spaced industrial development.

Generalized land uses at the NMANG property are shown in Figure 4. Definitions of these land use categories are provided in Table 7.

Table 7. Definitions of Land Use Categories at NMANG

Key*	Land Use Category	Definition
1	Safety Zones	Areas surrounding the apron, taxiways, and runways to protect moving aircraft by prohibiting buildings within a certain distance
2	Airfield Pavement	Taxiways and aprons where aircraft generally move under their own power; no buildings permitted within 125 feet of the apron
3	Aircraft Maintenance	Areas of activities responsible for maintaining and servicing aircraft
4	Aircraft Operations	Squadron operations
5	Industrial	POL facilities, base supply, civil engineering, and vehicle maintenance
6	Command and Support	Headquarters, communication, finance, clinic, disaster preparation, security forces, education, and ball fields
7	Open Space	Areas without development and planned activities
* Numbers correspond to those on Figure 4. Source: Photo Science 1995.		

### 3.5 GEOLOGICAL RESOURCES

#### 3.5.1 Definition of Resource

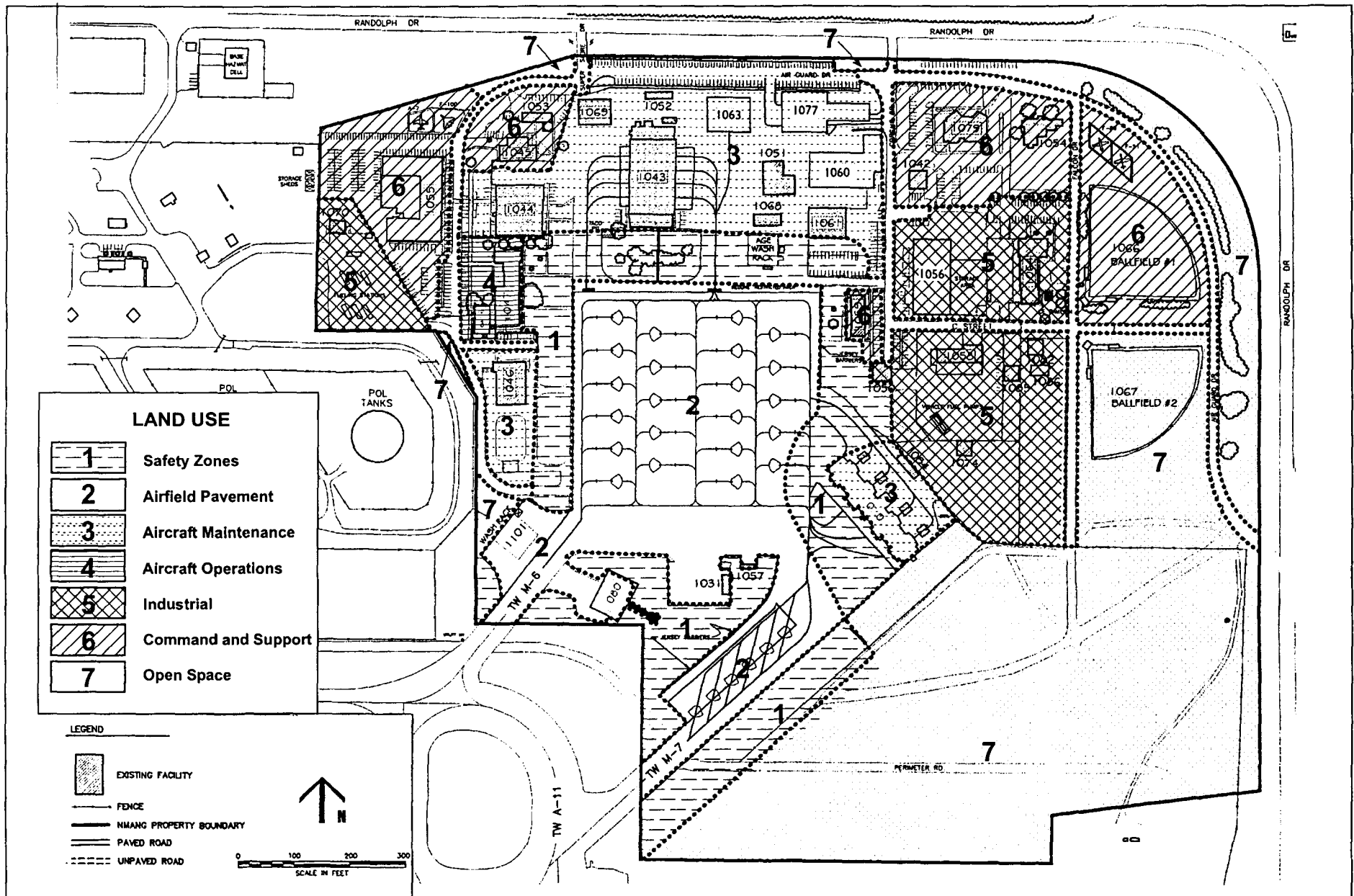
Geological resources constitute all properties of surface and subsurface materials. Geological resources also encompass an area's mineral resources. The principal geologic factors influencing the stability of structures are soil stability and seismic properties. Soil, in general, refers to unconsolidated earthen materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the ability of the ground to support structures and facilities. Soils typically are described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use.

Long-term geological, erosional, and depositional processes typically influence topographic relief of an area. Topography incorporates the physiographic, or surface, features of an area and is usually described with respect to elevation, slope, aspect, and landforms.

#### 3.5.2 Existing Conditions

##### 3.5.2.1 Regional Setting

The City of Albuquerque is located within the Albuquerque Basin, an elongated, north-trending basin approximately 90 miles long and 30 miles wide. The basin is surrounded by the Manzano and Sandia Mountains to the east, the Puerco Plateau and Lucero Uplift to the west, the Nacimiento Uplift to the north, and the Socorro Channel to the south. The basin and local mountain ranges were formed by large-scale faulting and tilting occurring during the Cenozoic era, approximately 11.2 to 5.3 million years ago. The deepest portion of the Albuquerque Basin is located along the eastern side near the Sandia Mountains, where the depth to the Precambrian igneous, metasedimentary, and metaigneous basement rocks is estimated at approximately 17,000 feet below sea level (Woodward 1982).



September 2002

Final EA

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Sediments in the Albuquerque Basin consist mainly of poorly consolidated sediments that have eroded from the surrounding mountain areas. These sediments, known as the Santa Fe Group, are overlain in places by Ortiz Gravel deposits, with Rio Grande River and volcanic deposits interspersed in certain areas (Ogden Undated). The topography of the region ranges from a gently sloping area near the Rio Grande at approximately 4,900 feet above mean sea level (MSL), to a maximum elevation of 10,682 feet MSL at Sandia Peak. Several faults exist throughout the area, which includes parts of three major tectonic provinces, the Colorado Plateau, the southern Rocky Mountains, and the Rio Grande rift (Woodward 1982). Also of geologic significance in the region are two major volcanic centers, the Mount Taylor and the Jemez volcanic fields, both of Cenozoic age.

#### 3.5.2.2 Kirtland AFB

Kirtland AFB is situated in the eastern portion of the Albuquerque Basin, to the west of the Manzanita Mountains and the southern portion of the Sandia Mountain range. This area is known as the "east mesa" and is mainly comprised of alluvial deposits from the late Quaternary age as well as depositional materials from the historic Tijeras Arroyo channel and/or eolian processes (Lambert et al. 1982). Tijeras Arroyo, a drainage originating in the Manzanita Mountains and flowing through Tijeras Canyon to the east, currently passes through the northeast corner of the base, traveling southwest until its confluence with the Rio Grande. The average elevation of Kirtland AFB is approximately 5,400 feet MSL, and the terrain is generally smooth and gently sloping toward the west.

The NMANG property is relatively level, and much of the area has been previously disturbed or paved over. Soils in the ROI consist of Wink fine sandy loam (0 to 5 percent), Madurez loamy fine sand (1 to 5 percent), and Latene sandy loam (1 to 5 percent). The following is a brief discussion of the properties of each of these soil types.

Wink fine sandy loam (0 to 5 percent). The Wink soil series consists of deep, well drained soils that formed in old unconsolidated alluvium on piedmonts modified by wind processes. Permeability is moderately rapid, and runoff is characterized as medium. The hazard of water erosion is slight to moderate, and the hazard of wind erosion is moderate. Wink soils are calcareous and moderately alkaline (SCS 1977).

Madurez loamy fine sand (1 to 5 percent). The Madurez soil series are similar to Wink soils in that they consist of deep, well drained soils that formed on piedmonts in old unconsolidated alluvium modified by wind. Runoff is slow, and the hazard of wind erosion/soil blowing is severe. Madurez soils are calcareous below a depth of 13 inches and are moderately alkaline throughout (SCS 1977).

Latene sandy loam (1 to 5 percent). The Latene series consists of deep, well drained soils that formed in old alluvium and mixed eolian sediment on the mesas east and west of the Rio Grande. Runoff is characterized as medium, and the hazard of water and wind erosion is moderate. The soil is strongly calcareous and moderately alkaline (SCS 1977).

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### 3.6 WATER RESOURCES

#### 3.6.1 Definition of Resource

The analysis of water resources includes all surface and groundwater resources within the ROI as well as watershed areas affected by existing and potential runoff. Issues addressed in this section include water quality, availability of surface and groundwater, and flooding potential. These resources are important for a variety of reasons including economic, ecological, recreational, and human health. Groundwater is often used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater properties are described in terms of depth to aquifer, aquifer or well capacity, water quality, and surrounding geologic composition.

#### 3.6.2 Existing Conditions

##### 3.6.2.1 Regional Setting

The Albuquerque area is characterized as having a Continental climate, which is relatively dry with large diurnal and annual ranges in temperature. Summer temperatures typically range from 58 to 90°F, while winter temperatures range from 27 to 58°F. Average annual rainfall in Bernalillo County ranges from 8 inches in the county's arid valley and mesa areas to approximately 30 inches in the Sandia Mountains east of Albuquerque. Precipitation occurs primarily in the summer months, with larger rainfall amounts occurring at higher elevations. Approximately one half of the annual precipitation in the region occurs from July to October, with an average of 44 heavy thunderstorms occurring each year. Snowfall in the region varies with elevation from approximately 10 inches in the valley areas, to approximately 3 feet in the foothills and up to 10 feet in the higher mountain areas. Winds are typically from the north in the winter and from the south along the river valley in the summer (SCS 1977).

The Rio Grande is the main surface hydrologic feature in central New Mexico and is among the 20 longest rivers in the world. The Rio Grande is approximately 1,900 miles long and drains an area of about 335,500 square miles (Rio Grande Alliance 2000). However, due to evaporation, the geologic substrate of the area, and diversions for agriculture/irrigation purposes, only about half of this area contributes water directly to the Rio Grande. In the Albuquerque area, the Rio Grande flows from north to south and is located approximately 5 miles west of Kirtland AFB. Surface water in the area occurs mostly in the form of sheet flow that drains into small gullies during storm events.

Albuquerque relies on groundwater as its sole source of potable water, which comes from the Rio Grande Underground Water Basin. This underground water basin has been defined by the State of New Mexico as a natural resource area and has been designated as a "declared underground water basin." It is regulated by the state as a sole source of potable water. The Rio Grande Underground Water Basin is fed by the Santa Fe Aquifer and is estimated to have 2.3 billion acre-feet of recoverable water, though studies conducted by the United States Geological Survey (USGS) reported a significant decline in the water level within the basin since the 1960s (USGS 2000). This decline has stimulated a city-wide conservation program to reduce per capita water consumption by 30 percent through voluntary participation and

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ordinances passed regarding landscaping (city-wide), irrigation (associated with new construction), and low-flow plumbing fixtures (also associated with new construction).

Water quality in the Rio Grande generally meets United States standards. However, due to the length of the river, some stretches immediately downstream from certain cities have relatively poor water quality. The main known water quality problems for the Rio Grande stem from non-point sources such as agriculture and stormwater runoff and involve high levels of fecal coliform bacteria, sediment, salts, pesticides, and heavy metals (Rio Grande Alliance 2000). Near Albuquerque, fecal coliform counts as high one million colonies per 100 milliliters have been measured after storm events, and high pesticide levels have been found in river water below the City (Rio Grande Alliance 2000). Furthermore, the potential for groundwater contamination in the basin, particularly by natural occurrences of arsenic, is of concern to local water officials (USGS 2000).

The City of Albuquerque is a member of the National Flood Insurance Program and the Federal Emergency Management Agency has mapped the 100-year floodplain in the city.

#### 3.6.2.2 Kirtland AFB

As previously mentioned, the Rio Grande is located approximately 5 miles west of Kirtland AFB and flows in a southerly direction in the Albuquerque area. The primary surface drainage channel on Kirtland AFB is Tijeras Arroyo, an intermittent stream that enters the base from the northeast, then flows south of the Albuquerque International Airport, eventually draining to the Rio Grande. Although the Tijeras Arroyo carries surface water during heavy thunderstorms and spring snow melt, the majority of these flows (approximately 95 percent) are lost to evaporation before they reach the Rio Grande. The remaining 5 percent is equally divided between runoff and groundwater recharge (USAF 1991). Other surface water features located on Kirtland AFB include Coyote Springs, the Manzano Springs, and Sol se Mete Spring, all of which are located toward the eastern portion of the base.

Kirtland AFB is also located within the limits of the Rio Grande Underground Water Basin, which is part of the larger Santa Fe aquifer system. The aquifer is made up of several individual basins that are connected and influenced by water levels in adjoining basins, and the position of impermeable beds of clay, silt, or unfractured volcanic rock (USGS 2000). The average depth to groundwater beneath Kirtland is 450 to 550 feet. Activities at Kirtland are not known to affect the Rio Grande Underground Water Basin. However, because the City of Albuquerque acquires all of its drinking water from groundwater, the Rio Grande Underground Water Basin has experienced a localized reversal of the regional groundwater gradients (Ogden Undated). Pumping of groundwater for municipal and agriculture use has lowered the water level within the basin by as much as 150 feet (USGS 2000). Recharge of the basin occurs primarily from precipitation in the mountainous areas that surround the basins, and from percolation within streambeds or rivers. The only area on Kirtland AFB property expected to contribute to recharge of the Santa Fe Aquifer (which feeds the Rio Grande Underground Water Basin) is the area to the east of the installation in the Manzano Mountains. This area, which receives considerably more precipitation than the arid valley and mesa areas of Bernalillo County, consists of sedimentary substrate which favor rapid infiltration (USAF 1991).

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There are no jurisdictional wetlands located on the NMANG property. In addition, the property does not contain any surface water drainages with the exception of stormwater runoff and sanitary sewer catch basins. Kirtland AFB is responsible for maintaining a stormwater pollution prevention plan to comply with the provisions of the Clean Water Act (CWA) and the USEPA's requirements for stormwater discharges associated with industrial activity at air transportation facilities. Kirtland AFB has assigned a Pollution Prevention Team (PPT) that performs site inspections of NMANG as well as quarterly monitoring activities. Pollutants likely to be present in stormwater discharges to the sanitary sewer system from NMANG include oil and grease, diesel, gasoline, JP-8, antifreeze, and volatile organic compounds. In addition, de-icing fluids and salts are used by NMANG in limited quantities. To minimize contaminants introduced to the sanitary sewer, oil water separators have been installed to the catch basins that intercept stormwater runoff from Buildings 1046, 1069, 1058, 1051, 1060, 1061, and 1070 (Kirtland AFB 1998).

The NMANG property is not located within the mapped 100-year floodplain.

### 3.7 BIOLOGICAL RESOURCES

#### 3.7.1 Definition of Resource

Biological resources include native or naturalized plants and animals and the habitats in which they occur. For purposes of this environmental assessment, sensitive biological resources are defined as those plant and animal species listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS), the New Mexico Department of Game and Fish (NMDGF), or the New Mexico Forestry Division (NMFD).

This section also addresses wetlands. Jurisdictional wetlands typically consist of areas where hydrophytic vegetation, hydric soils, and a hydrologic regime are present. Hydrophytic vegetation is defined as plants adapted to growing in a saturated or inundated substrate which is at least periodically deficient of oxygen as a result of excessive water. Hydric soils are formed under conditions of saturation, flooding, or ponding long enough to develop anaerobic conditions. Hydric soils that occur in areas having positive indicators of hydrophytic vegetation are considered to be wetland soils. Hydrology is the science dealing with the properties, distribution, and circulation of water. To determine if an area meets the wetland hydrology criteria, it is examined for inundation, soil saturation, a shallow groundwater table, and/or other hydrologic indicators. Areas that are seasonally inundated and/or saturated to the surface for a consecutive number of days more than or equal to 12.5 percent of the growing season meet the criteria for wetland hydrology. If one or more of these wetland criteria are absent, (i.e. hydrophytic vegetation, hydro soils, and hydrology), a site may be not considered a jurisdictional wetland. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands are protected by Section 404 of the CWA and are subject to United States Army Corps of Engineers (USACE) jurisdiction.

The following evaluation was prepared using information obtained from USFWS, NMDGF, NMFD, previously prepared studies, and field surveys performed on June 27 to 29, 2000.

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### 3.7.2 Existing Conditions

#### 3.7.2.1 Regional Setting

Albuquerque and the surrounding vicinity are located within the New Mexico Pueblo Province. This region is known for its abundant plant and animal diversity due to the great variation in topography, moisture availability, and geologic substrate. Vegetation communities within the Albuquerque area include riparian/wetland/arroyo communities, great basin and desert grassland communities, pinyon-juniper woodlands, ponderosa pine/mixed conifer forests, and spruce-fir communities at the top of taller mountain ranges. A brief description of each of these communities is provided below.

**Riparian/Wetland/Arroyo.** Wetlands in the southwest occur primarily as marshes, bogs, and fens adjacent to surface water drainages or springs, or in areas where pooling is created by geological formations. High altitude boreal wetlands commonly consist of floodplains of mountain streams adjacent to subalpine forests and grasslands. These riparian wetlands consist mainly of willows (*Salix* spp.), though many subalpine grassland meadows possess high water tables, so small marshy ponds dominated by sedges (*Carex* spp.) and rushes (*Juncus* spp.) are also common features. Lower montane and grassland elevation wetlands appear mostly along perennial and near-perennial streams or surface water drainages. These areas are typically dominated by cottonwoods (*Populus* spp.), willows, and forbs, though salt cedar (*Tamarix chinensis*) (an invasive exotic) is becoming more common (Ogden 2000).

Wildlife common to riparian and wetland habitats include the common muskrat (*Ondatra zibethicus*), American beaver (*Castor canadensis*), bullfrog (*Rana catesbeiana*), and many types of bird species including the Mallard duck (*Anas platyrhynchos*) and Canada Goose (*Branta canadensis*). Aquatic habitats may also provide habitat for a variety of fish species including rainbow trout (*Salmo gairdneri*), brook trout (*Salvelinus fontinalis*), and the golden shiner (*Notemigonus crysoleucas*) (Ogden 2000).

**Great Basin Grassland.** Great basin grasslands are typically located on high level plains, with elevations ranging from 4,900 to 7,500 feet. Average annual precipitation ranges from 7.1 to 18.1 inches. Soil characteristics for great basin grasslands are deep, well-drained soils on outwash alluvial plains and valleys. The texture of surface soils is generally calcareous sandy loam, while subsurface soils are typically sandy loam or sandy clay loam. Dominant plant species in the great basin grassland community include grama grasses (*Bouteloua gracilis*, *B. eriopoda*, *B. hirsuta*), Indian ricegrass (*Oryzopsis hymenoides*), sand dropseed (*Sporobolus cryptandrus*), buffalo grass (*Buchloe dactyloides*), western wheatgrass (*Agropyron smithii*), and three-awn (*Aristida* sp.). Shrubs in great basin grasslands include fourwing saltbush (*Atriplex canescens*), broom snakeweed (*Gutierrezia sarothrae*), sagebrush (*Artemisia* sp.), apache plume (*Fallugia paradoxa*), and winterfat (*Krascheninnikovia lanata*).

Wildlife in great basin grassland communities generally includes a large variety of wildlife species. The mammal community is made up of desert cottontail (*Sylvilagus auduboni*), Gunnison's prairie dog (*Cynomys gunnisoni*), white-footed deer mouse (*Peromyscus maniculatus*), silky pocket mouse (*Perognathus flavus*), Merriam's kangaroo rat (*Dipodomys merriami*), and the northern grasshopper mouse (*Onychomys leucogaster*). Larger mammals

in these areas include coyote (*Canis latrans*), badger (*Taxidea taxus*), kit fox (*Vulpes macrotis*), striped skunk (*Mephitis mephitis*), and bobcat (*Lynx rufus*). Common birds associated with great basin grasslands include the Horned Lark (*Eremophila alpestris*), Scaled Quail (*Callipepla squamata*), Mourning Dove (*Zenaida macroura*), Greater Roadrunner (*Geococcyx californianus*), American Crow (*Corvus brachyrhynchos*), Northern Mockingbird (*Mimus polyglottos*), Crissal Thrasher (*Toxostoma crissal*), Lark Sparrow (*Chordestes grammacus*), Western Meadowlark (*Sturnella neglecta*), Brown-headed Cowbird (*Molthrus ater*), and House Finch (*Carpodacus mexicanus*). Raptors common to these areas include Northern Harrier (*Circus cyaneus*), Red-tailed Hawk (*Buteo jamaicensis*), American Kestrel (*Falco sparverius*), Prairie Falcon (*Falco mexicanus*), Barn Owl (*Tyto alba*), Long-eared Owl (*Asio otus*), and Great Horned Owl (*Bubo virginianus*).

**Desert Grassland.** Desert grasslands are primarily a perennial grass and scrub dominated landscape that are found mostly on the edges of the Chihuahuan Desert in central New Mexico and southeastern Arizona. This community is typically located at elevations between 3,630 feet to 6,270 feet MSL with average precipitation levels of 10 to 18 inches annually. The dominant species found in these grasslands reproduce principally from seed and occur in clumps interspersed with bare ground (Brown 1994). Grass species commonly found within this vegetative community include grama grasses, three-awn, tridens (*Tridens* spp.), bush muhly (*Muhlenbergia porteri*), and vine mesquite grass (*Panicum obtusum*). Other species present in this community include filarees (*Erodium* spp.), lupines (*Lupinus* spp.), globemallows (*Sphaeralcea* spp.), beargrass (*Nolina microcarpa*), and yuccas (*Yucca torreyi*, *Y. baccata*, *Y. elata*). Shrubs include snakeweed (*Gutierrezia sarothrae*), fourwing saltbush, and mesquite (*Prosopis glandulosa*); smaller tree species include one-seeded juniper (*Juniperus monosperma*) and occasionally low oaks, such as gray oak (*Quercus grisea*).

Wildlife in desert grassland areas typically consists of coyote, pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), white-tailed deer (*Ovis virginianus*), and black-tailed jackrabbit (*Lepus californicus*). Bird species include Cassin's Sparrow (*Aimophila cassinii*), Burrowing Owl (*Athene cunicularia*), Swainson's Hawk (*Buteo swainsoni*), Prairie Falcon, American Kestrel, Greater Roadrunner, Mourning Dove (*Zenaida macroura*), and the Loggerhead Shrike (*Lanius ludovicianus*). Desert box turtle (*Terrapene ornata luteola*), western green toad (*Bufo debilis insidiosus*), and the western hognosed snake (*Ficimia cana*) are also found in desert grassland communities.

**Pinyon-Juniper Woodlands.** Pinyon-juniper woodlands typically range in elevation from 5,000 to 7,500 feet MSL with annual precipitation ranging from 9.9 to 19.7 inches per year. Soils characteristics are generally shallow to deep, well-drained soils forming on mixed alluvium. The soil surface is gravelly sandy loam with subsurface soils containing approximately 70 percent coarse fragments. Dominant plant species in the pinyon-juniper community include pinyon pine (*Pinus edulis*), one-seed juniper, mountain mahogany (*Cercocarpus montanus*), yucca, gambel oak (*Quercus gambelii*), prickley pear (*Opuntia phaeacantha*), blue grama (*Bouteloua gracilis*), sideoats grama (*B. curtipendula*), and mutton grass (*Poa fendleriana*).

Wildlife occurring in pinyon-juniper woodlands include black bear (*Ursus americanus*), mountain lion (*Felis concolor*), porcupine (*Erethizon dorsatum*), rock squirrel

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(*Spermophilus variegatus*), brush mouse (*Peromyscus boylii*), Black-chinned Hummingbird (*Archilochus alexandri*), Cassin's Kingbird (*Tyrannus vociferans*), Scrub Jay (*Aphelocoma coerulescens*), Mountain Chickadee (*Parus gambeli*), Western Tanager (*Pirananga ludoviciana*), Yellow Warbler (*Dendroica petechia*), Sharp-shinned Hawk (*Accipiter striatus*), and Western Screech Owl (*Otus kennicottii*). Large ungulates, such as elk (*Cervus elaphus*) and mule deer may also be present in these areas. Amphibians and reptiles are generally absent from these areas due to the lack of water, though the plateau striped whiptail (*Cnemidophorus velox*) is known to occupy these areas.

**Ponderosa Pine / Mixed Conifer Forests.** Diverse forests of mixed conifer and ponderosa pine (*Pinus ponderosa*) cover many southwestern mountains. In the southwest, these forests typically range from 7,500 to 8,700 feet MSL in elevation, with ponderosa pines dominating the lower end of the range and mixed conifers becoming more prevalent in the upper reaches of the range. Average annual precipitation for these areas typically ranges from approximately 16 to 22 inches depending on elevation. Dominant species in this ecozone include ponderosa pine, Douglas-fir (*Pseudotsuga macrocarpa*), white fir (*Abies concolor*), limber pine (*P. flexilis*) (in the north), southwestern white pine (*P. strobiformis*) (in the south), and blue spruce (*Picea pungens*). Aspen (*Populus tremuloides*), along with Gambel oak, are also prominent in these forests following disturbances. Understory species associated with these forests include New Mexican locust (*Robinia pseudoacacia*), smooth sumac (*Rhus glabra*), creeping barberry (*Berberis repens*), and Kentucky bluegrass (*Poa pratensis*).

Wildlife associated with the ponderosa pine and conifer forests generally include snowshoe hare (*Lepus americanus*), mule deer, deer mouse (*Peromyscus maniculatus*), red squirrel (*Tamiasciurus hudsonicus*), and elk. At lower elevations mammals include chipmunks (*Eutamias* spp.), shrews (*Sorex* spp.), voles (*Microtis* spp.), cottontails (*Sylvilagus* spp.), gray wolf (*Canis lupus*), porcupine, white-tailed deer, and myotis bats (*Myotis* spp.).

**Spruce-Fir Subalpine Forests.** Subalpine coniferous forests dominated by Engelmann spruce (*Picea engelmanni*), subalpine fir (*Abies lasiocarpa*) (in the north), and corkbark fir (*Abies lasiocarpa* var. *arizonica*) (in the south) are found in the higher mountainous areas of New Mexico from about 8,000 to 12,500 feet MSL in elevation. This community type occurs in areas with an average precipitation range between 25 and 40 inches, much of which falls as snow. Virgin tree stands often exceed 75 feet in height and are commonly layered with two or more age-classes of trees. Below 9,500 feet MSL one or more of these classes may be composed solely of aspen, which is the principal successional pioneer after fire or other forest disturbance. Blue spruce is sometimes present with Engelmann spruce; in other instances, it forms small stands alone or with aspen. Understory vegetation associated with the subalpine conifer forest includes dwarf juniper (*Juniperus communis*). Red elderberry (*Sambucus microbotrys*), creeping Mahonia (*Berberis repens*), currants (*Ribes* sp.), raspberries (*Rubus* spp.), snowberries (*Symphoricarpos* spp.), and blueberry (*Vaccinium oreophilum*) occur in openings or certain seral stages of forest development (Brown 1994).

Common wildlife in the spruce-fir communities of the southwest include snowshoe hare, least chipmunk (*Eutamias minimus*), Gapper's redbacked mouse (*Clethrionomys gapperi*), mule deer, and marten (*Martes americana*). Avian species include Blue Grouse

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(*Dendragapus obscurus*), northern Three-toed Woodpecker (*Picoides tridactylus*), Hammond's Flycatcher (*Empidonax hammondi*), Gray Jay (*Perisoreus canadensis*), Red-breasted Nuthatch (*Sitta canadensis*), Golden-crowned Kinglet (*Regulus satrapa*), Ruby-crowned Kinglet (*R. calendula*), and Cassin Finch (*Carpodacus cassinii*) (Brown 1994).

### 3.7.2.2 Kirtland AFB

Vegetative communities located at Kirtland AFB have been characterized as great basin and desert grasslands, pinyon-juniper woodlands, ponderosa pine and mixed conifer forests, and riparian/wetland/arroyo communities (377 ABW 1998, Ogden 2000). These characterizations generally follow the vegetative communities outlined above. The majority of the undeveloped land located on Kirtland AFB is located on the southern and eastern portions of the base, away from the airfield and cantonment areas. Wetland areas determined to be on site by the USACE (1995) include six areas on the eastern portion of the base, in the vicinity of the Manzano Area. Four of these wetland areas, Coyote Springs, Manzano Springs 1 and 2, and one unnamed spring, are located on Kirtland AFB proper. Tijeras Arroyo and Arroyo del Coyote also support riparian vegetation, though surface water in these areas does not persist long enough to support wetland plant species. None of these areas are in the vicinity of the NMANG property.

The NMANG property is within the northern portion of the base, which has been heavily developed. The only undeveloped portions in the ROI consist of a small parcel located between Air Guard Drive and Randolph Drive and the ballfield to the east of Falcon Drive. These areas consist of disturbed grassland communities that are maintained through periodic mowing. A row of ornamental trees also lines the parcel between Air Guard and Randolph Drives, and an abandoned railroad right-of-way runs through a portion of this alignment. Both of the undeveloped areas are relatively level, and both support Gunnison's prairie dog and burrowing owl populations.

### 3.7.2.3 Special Status Species

A list of threatened, endangered, candidate, and species of concern for Bernalillo County, New Mexico, was obtained from the USFWS Albuquerque Office. A copy of this list is included with the USFWS letter in Appendix C. A list of sensitive wildlife species in Bernalillo County, New Mexico, was obtained from the NMDGF. This list is also included in Appendix C. According to the NMFD (2001), no sensitive plant species are located in the NMANG property.

Previous studies conducted at Kirtland AFB (New Mexico Natural Heritage Program 1995, Stephens and Associates 1997, 377 ABW 1995, 377 ABW 1998) indicate that the only special status species with the potential to occur in the project area is Western Burrowing Owl (*Athene cunicularia hypugaea*). Western Burrowing Owls are protected under the Federal Migratory Bird Treaty Act and are a Species of Concern according to the USFWS.

Burrowing Owl surveys are conducted on Kirtland AFB by Hawks Aloft, Incorporated, to monitor population size, brood size, nesting success rates, and site fidelity. During the 2000 survey period, ten Burrowing Owl nests were located in the immediate vicinity of the project area. Of these ten nests, three had been abandoned, and two supported chicks (377 ABW

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2000). Site fidelity results for 1998 and 1999, evaluated for owls returning within 100 meters of the original banding location, were measured at 100 and 47 percent, respectively.

### 3.8 TRANSPORTATION AND CIRCULATION

#### 3.8.1 Definition of Resource

Transportation and circulation refer to the movement of vehicles from one place to another. Roadway operating conditions, or the adequacy of the existing and future roadway systems to accommodate these vehicular movements, are usually compared with current and projected average daily traffic volumes.

Primary roads (e.g., interstate highways) are designed for the purpose of moving traffic and are not necessarily designed to provide access to all adjacent properties. Secondary roads are arterials (e.g., State Routes) designed for the purpose of facilitating traffic movement. These roads service minor traffic generators such as community and commercial areas, hospitals, and schools.

#### 3.8.2 Existing Conditions

##### 3.8.2.1 Regional and Local Circulation

Interstates I-25 and I-40 intersect in the center of Albuquerque. I-25 runs north-south, while I-40 runs east-west. Cities connected to Albuquerque by I-25 and I-40 include Gallup, Santa Rosa, Santa Fe, and Las Cruces, New Mexico; Flagstaff, Arizona; Denver, Colorado; and Amarillo and El Paso, Texas. Arterials in Albuquerque include Central Ave (U.S. Route 66) and Lomas Boulevard (State Route 352), which run east-west, and San Mateo Boulevard (State Route 367), Second and Third Streets (State Route 47), and Fourth Street (U.S. Route 85), which run north-south. The city is roughly bordered by the following arterials: Tramway Boulevard (State Route 556) to the east, Gibson Boulevard and Bridge Boulevard (State Route 135) to the south, Coors Boulevard (State Routes 45 and 448) to the west, and Montgomery Boulevard to the north.

Access to Kirtland AFB can be gained through six entrances/gates. The Carlisle, Truman (at San Mateo Boulevard), and Gibson (at Louisiana Boulevard) gates give access to the base from the west and north along Gibson Boulevard. Access to the base from the south can be gained through the Specker Road gate. The gate at Eubank Boulevard provides access to Kirtland AFB from the east, while the gate at Wyoming Boulevard provides access from the north. Access to the NMANG property is generally achieved through the Truman, Gibson, or Wyoming gates.

##### 3.8.2.2 Kirtland AFB Circulation

Regardless of which gate is used to enter Kirtland AFB, initial access to the NMANG property comes from Randolph Drive, which is major connector within Kirtland AFB. Air Guard Drive, the major connector within the NMANG property, parallels Randolph Drive. Super Saber Drive and Corsair Drive connect Randolph Drive with Air Guard Drive. Access

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to buildings, parking lots, and other areas on the NMANG property is obtained from Air Guard Drive, Corsair Drive, Falcon Drive, or C Street. These roads are shown on Figure 2.

### 3.8.2.3 Kirtland AFB Parking

There are currently 580 POV parking spaces within the NMANG property (Photo Science 1995). Authorized POV parking is 750 spaces, which means the 150FW currently has a deficit of 170 parking spaces. On UTA weekends, personnel park in unmarked spaces between Air Guard Drive and the NMANG property boundary.

## 3.9 VISUAL RESOURCES

### 3.9.1 Definition of Resource

Visual resources are defined as the natural and manufactured features that constitute the aesthetic qualities of an area. These features form the overall impression that an observer receives of an area or its landscape character. Landforms, water surfaces, vegetation, and manufactured features are considered characteristic of an area if they are inherent to the structure and function of the landscape.

The significance of a change in visual character is influenced by social considerations, including public value placed on the resource, public awareness of the area, and general community concern for visual resources in the area. These social considerations are addressed as visual sensitivity and are defined as the degree of public interest in a visual resource and concern over adverse changes in the quality of that resource.

### 3.9.2 Existing Conditions

#### 3.9.2.1 Regional Visual Character

The pueblos of New Mexico offer a diverse visual environment ranging from the broad floodplain of the Rio Grande to the highest peak of the Sandia Mountains at 10,682 feet MSL. Because of its vast elevational range, varying hydrologic regime, and the differences in cultural and urban land use densities, the landscape throughout the region offers a rich visual environment. In the Albuquerque area, much of the landscape has been converted to anthropogenic uses, though several points of visual sensitivity are still present. These areas include the Sandia and Manzano Mountains, Petroglyph National Monument, Bandelier National Monument, Historic Old Town, as well as many biologically diverse deserts, mesas, and alpine regions.

#### 3.9.2.2 Kirtland AFB

Kirtland AFB is located adjacent to the City of Albuquerque, with residential and commercial land uses to the north and west of the base. The Sandia Mountains are located to the east of Kirtland AFB, and the Sandia Indian Reservation and open desert land are located to the south. The base, which covers approximately 46,000 acres including the NMANG property, is typical of military institutions and would not be considered a high quality visual

resource area. Depending on the viewer, views to the east and south may be considered of higher quality.

### 3.10 CULTURAL RESOURCES

#### 3.10.1 Definition of Resource

Cultural resources represent and document activities, accomplishments, and traditions of previous civilizations. Cultural resources also link current and former inhabitants of an area. Depending on their condition and historic use, these resources may provide insight into the living conditions of previous civilizations and may retain cultural and religious significance to modern groups.

Historical cultural resources are comprised of sites, structures, districts, or other physical evidence of human activity significant for scientific, traditional, or religious reasons. Archaeological resources are areas where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains. Architectural resources include standing buildings, bridges, dams, and other structures of historic or aesthetic significance.

Several Federal laws and regulations have been established to manage cultural resources, including the National Historic Preservation Act (NHPA) of 1966, the Archaeological and Historic Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resource Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990. In order for a cultural resource to be considered significant, it must meet one or more criteria for inclusion on the National Register of Historic Places (NRHP). Coordination with Federally recognized Native American tribes must occur in accordance with Executive Order (EO) 13084, Consultation and Coordination With Indian Tribal Governments.

#### 3.10.2 Historical Context

##### 3.10.2.1 Regional History

The Albuquerque region contains a rich and diverse record of prehistoric and historic use of the area. Archaeological evidence suggests that central New Mexico was first occupied by human populations approximately 10,000 to 12,000 years ago. These "Paleo-Indian" populations were comprised of small semi-nomadic groups who practiced a hunter-gatherer lifeway. Around 7,500 years ago, a shift to warmer climatic conditions was also marked by a shift of hunter-gatherer populations to more focused resource procurement strategies and specialized adaptations to microenvironments. This period of specialization is known as the Archaic stage and is reflected in archaeological sites that contain a more complex and diverse array of tools indicative of the specialized adaptations made by human populations during this period. The Archaic stage persisted in central New Mexico until approximately 1,600 years ago. The advent of agriculture marked a major change in human interaction with the environment and in the archaeological record left behind by these people (TRC Mariah Associates 1997).

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The Puebloan stage is characterized by the use of ceramics, the bow and arrow, and more permanent dwellings known as pithouses. Around 700 years ago, the archaeological record indicates that ceramic styles were becoming increasingly elaborate and populations were aggregating in larger above-ground pueblos. This period, known as the Classic period, persisted until about 500 years ago. The population of central New Mexico increased significantly during this time (TRC Mariah Associates 1997).

Early Spanish exploration during the middle of the sixteenth century brought significant changes to the native peoples of central New Mexico. The introduction of the mission system resulted in major disruption to traditional cultural patterns. The United States government assumed control of the region in the mid-nineteenth century. The advent of the railroad, mining and homesteading brought further changes to the region (TRC Mariah Associates 1997).

#### 3.10.2.2 Kirtland AFB

Kirtland AFB can trace its origins to the general rise of civil aviation in the early twentieth century. The Works Progress Administration built a civilian airfield (Albuquerque Airport) near Albuquerque in the late 1930s. The facility soon drew the attention of the military culminating in the lease by the United States Army of 2,000 acres adjacent to the airport for the Albuquerque Army Air Base. With the outbreak of World War II, the facility saw a rapid increase in importance. The facility was renamed Kirtland Field in 1942. Kirtland Field played an important role during the Cold War as a training facility for aircraft capable of delivering nuclear weapons. In 1948 the base was renamed Kirtland Air Force Base. The airport is currently a joint military and civilian use facility (Van Citters 2000, TRC Mariah Associates 1997).

#### 3.10.3 Existing Conditions

Since the 1930s the Albuquerque area has been subject to numerous cultural resource surveys. The lands encompassed within Kirtland AFB have yielded evidence of prehistoric and historic occupation. Over 100 habitation sites have been recorded on Kirtland AFB (Advanced Sciences 1992). Some of these habitation sites have been dated to the Middle Rio Grande Pueblo Culture dating from approximately 1,800 to 700 years ago. In 1997, Kirtland AFB completed preparation of a Cultural Resources Management Plan which summarized cultural resource surveys conducted on the base (TRC Mariah Associates 1997). Four structures older than 50 years have been identified on the base. Three of these are associated with the early civilian development of the facility, and a fourth is the Officers' Club constructed during initial military involvement in 1936 (Advanced Sciences 1992).

A Class III (intensive) cultural resources inventory was conducted on the NMANG property in 2001. No significant archaeological sites were identified during the survey (AMEC Earth and Environmental 2001). Six buildings on the NMANG property were evaluated in 2000 including Buildings 1058, 1059, and 1079. Only Building 1043, a 1957 hangar, was recommended as significant for its association with the Cold War (Van Citters 2000). Buildings 1045 and 1053 were not evaluated because they were both constructed in the mid-1950s. Representatives of the New Mexico State Historic Preservation Officer (SHPO) concurred that the proposed actions would not affect historic properties. Appendix C

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contains a letter from Nancy Hanks and Elizabeth Oster dated May 23, 2001 which states the Buildings 1045 and 1053 are ineligible.

### 3.11 SOCIOECONOMICS

#### 3.11.1 Definition of Resource

Socioeconomic resources include the basic attributes and resources associated with the human environment. In particular, this includes population and economic activity. Economic activity typically encompasses employment, personal income, and industrial growth.

In 1994, EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued to focus attention of Federal agencies on human health and environmental conditions in minority and low-income communities. In addition, EO 12898 aims to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed.

In 1997, EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, was introduced to minimize environmental health and safety risks to children. EO 13045 prioritized the identification and assessment of environmental health risks and safety risks that may affect children and to ensure that Federal agencies, policies, programs, activities, and standards address environmental risks and safety risks to children.

#### 3.11.2 Existing Conditions

##### 3.11.2.1 Population

The 2000 population of the City of Albuquerque was 448,607, which is an increase of 16.5 percent from 1990. The Albuquerque Metropolitan Statistical Area (MSA) population in 2000 was 712,738—a 21 percent increase from 1990 (City of Albuquerque Planning Department 2001). The City of Albuquerque is approximately 72 percent white, 4 percent American Indian or Alaska Native, 3 percent black, 2 percent Asian, and 15 percent some other race. Forty percent of the city is Hispanic or Latino<sup>1</sup> (United States Bureau of the Census 2001a). This is a substantial decrease compared to 1990, when 50 percent of the city's residents were Hispanic or Latino (Ogden Undated).

##### 3.11.2.2 Job Growth and Employment

Kirtland AFB plays a major role in the economic health of the Albuquerque metropolitan area. Kirtland AFB contributed more than \$2.7 billion to the local economy in FY 2000 (Thompson 2000). The base is the largest employer in the Albuquerque area, with a total of 28,680 employees in 2000, including contract civilians and other civilian employees. Other top employers in the area include the Albuquerque public school system (17,500), the University of New Mexico (15,475), the City of Albuquerque (9,000), Sandia National Labs

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<sup>1</sup> Race and Hispanic/Latino origin are two separate and distinct concepts. Hispanics or Latinos may be of any race.

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(6,600), Presbyterian Heath System (5,800), and Intel Corporation (5,200) (Greater Albuquerque Chamber of Commerce 1999).

The seasonally adjusted unemployment rate in the Albuquerque MSA was 4.1 percent in April 2001. This was exactly one percentage point higher than the figure for April 2000 (New Mexico Department of Labor 2001). The per capita income for the Albuquerque MSA was \$25,619 in 1999 (United States Bureau of Economic Analysis 2001).

In 1998, the services industry dominated employment sectors in the Albuquerque MSA. Almost half of non-farm employment was in this sector. The other sector with a large workforce was wholesale and retail trade (approximately 22 percent of non-farm employment in 1998). Other sectors, including manufacturing, construction, transportation, government, and finance/insurance/real estate, each employed less than 10 percent of the local workforce. Projections through 2008 estimate the largest increases in employment will be in services (28 percent increase from 1998) and construction (27 percent). The total increase in employment across all sectors is estimated at 25 percent (New Mexico Department of Labor 2001).

Construction receipts for New Mexico in 1997 were estimated at approximately \$4.8 billion. The United States Bureau of the Census maintains no such statistics for cities or counties (United States Bureau of the Census 2001b). Considering that approximately 40 percent of state residents live in the Albuquerque MSA, it is estimated that construction receipts in the Albuquerque area are approximately \$2 billion annually.

### 3.11.2.3 Kirtland AFB

The annual payroll of Kirtland AFB in FY 2000 was more than \$1.2 billion. Additional direct expenses included almost \$20 million in construction costs, approximately \$34 million in service contracts, and approximately \$755 million in local procurement. An estimated 23,000 jobs were created in the local economy due to these expenditures (Wallace Undated).

Kirtland AFB employed approximately 28,680 persons in 2000, including active duty military personnel, Reserve and National Guard personnel, civilian personnel, and contractors. In addition, approximately 11,000 active duty military dependents and 10,000 retirees also reside in the Albuquerque area (Wallace Undated).

## 3.12 HAZARDOUS MATERIALS AND WASTES

### 3.12.1 Definition of Resources

Hazardous wastes are products characterized by their ignitability, corrosiveness, reactivity, and toxicity. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, or any materials that pose a potential hazard to human health and safety or the environment due to their quantity, concentration, or physical and chemical properties.

Hazardous waste includes any waste which, due to its quantity, concentration, or physical/chemical/infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality, serious irreversible illness, or incapacitating reversible illness, or (2) pose a substantial threat to human health or the environment.

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### 3.12.2 Existing Conditions

Kirtland AFB is a large quantity generator of hazardous waste due to its aircraft operations and maintenance activities. Aircraft maintenance requires a variety of solvents, adhesives, sealants, paints, and lubricants that contain one or more hazardous constituents. In addition, de-icing activities, fuels required for aircraft and ground operations, the operation of industrial shops and research facilities at the base, as well as pesticide and herbicide use on-site generate hazardous wastes that are used and stored at Kirtland AFB.

Wastes generated by base activities generally include petroleum, oil, and lubricant wastes; hydrazine; and waste surplus chemicals such as halogenated solvents, polychlorinated biphenyls, silver-bearing photographic materials, acids and bases, and nonhalogenated solvents and organic compounds (Ogden Undated). The pest management program at Kirtland AFB actively manages for a variety of insects (ants, flies, cockroaches, spiders, ticks, fleas), rodents, and unwanted vegetation. All chemicals used for pest management activities (d-phenothrin, FICAM W, Dursban L.O., Pyrid, Dianinon 4E, Amdro, Roundup, Weedar 64, Pramitol 5Ps, and MAKI) are stored in locked storage lockers and logged in accordance with USAF guidelines.

Currently there are four active aboveground storage tanks (ASTs) on the NMANG property: two 5,000-gallon petroleum tanks near Building 1058; a 2,500-gallon JP-8 tank near Building 1080; and one 500-gallon oil tank near Building 1080. All active ASTs are double-wall steel construction (Kirtland AFB 1999).

To minimize contaminants introduced to the sanitary sewer, oil water separators have been installed to the catch basins that intercept stormwater runoff at Buildings 1046, 1069, 1058, 1051, 1060, 1061, and 1070 (Kirtland AFB 1998).

Collection and storage of hazardous waste on the base is regulated by a Resource Conservation and Recover Act (RCRA) Part B permit issued by the State of New Mexico. The collection and storage sites are operated by the Defense Reutilization and Marketing Office, which arranges off-site disposal of the wastes. Paint wastes are temporarily stored in one polypack drum unit located outside Building 1064. Paint wastes, used oils, and antifreeze are temporarily stored in five drum storage polypacks located outside Building 1058. Unused paints and solvents are temporarily stored in outdoor storage lockers located adjacent to Building 1058. Waste containers are typically removed from the site when they reach 80 percent capacity (Kirtland AFB 1998).

The base maintains an annually updated Hazardous Waste Management Plan as well as a Hazardous Materials Spill Plan to comply with applicable Federal, state, and local standards. Special guidance documents are followed for the disposal of asbestos, hydrazine, and radioactive materials (Ogden Undated).

The Installation Restoration Program (IRP) is the basis for assessment and response actions at Kirtland AFB under the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. As of May 2001, 77 validated DERA sites and 15 areas of concern (AOCs) have been identified at the base. The New Mexico Environment Department Hazardous Waste Bureau was granted administrative authority in January 1996 and regulates Kirtland Air Force Base under the provisions of Module IV of the Part B

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Permit. RCRA is the main driving force behind the cleanup of these sites, and schedules for the cleanup of the sites are included in the permit (Ogden Undated). As of July 2001 the following Corrective Action Units (CAUs) were identified in the Part B permit and have been investigated by Environmental Management:

ST-70	Oil Water Separator (OWS) Building 2637 (wash rack)
SS-77	Abandoned Railroad spur
ST-228	Area Drain Building 1040
ST-229	Sewage Ejector Building 1043
ST-222-225	Building 1031 OWS, Area Drain, sewer ejector, and holding tank
ST-234-237	Building 1051, OWS, Area Drain
ST-238-240	Building 1056, OWS, holding tank
ST-242-243	Building 1063, OWS
ST-241	Building 1061, OWS
ST-244-245	Building 1064, OWS, holding tank

Constituents of concern to human or ecological health are not present and each site has been, or will be recommended for No Further Action (NFA). Of the listed sites ST-70 was the only validated IRP site. (Validated means the site was accepted by command as an IRP site.)

No comprehensive lead-based paint (LBP) survey has been conducted on the NMANG property. Buildings 1045, 1053, and 1059 were tested for the presence of asbestos-containing building material (ACBM) in 1999. All buildings contained at least one positive asbestos sample.

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## 4.0 ENVIRONMENTAL CONSEQUENCES

This section describes potential environmental consequences as a result of implementation of the proposed action by the 150FW. The analysis presented in this section is based on an examination of potential effects of the proposed action and the no action alternative (refer to Section 2) on baseline conditions (refer to Section 3). All avoidance, prevention, minimization, and mitigation measures described below will be set forth in the contract agreements between 150FW and the contractors conducting work.

### 4.1 SAFETY

#### 4.1.1 Approach to Analysis

The following analysis assesses the potential of the proposed action to affect ground safety at the NMANG. Safety impacts would be significant if the likelihood of person-days of lost work or fatalities increases due to proposed short-term construction impacts.

#### 4.1.2 Proposed Action

Temporary impacts to safety would be negligible and therefore not significant. During construction, contractor personnel would be responsible for compliance with all applicable occupational health and safety regulations and work compensation programs. Contractors would be required to conduct construction and demolition activities in a manner that would not pose any risk to 150FW personnel.

Long-term impacts to safety would be beneficial. Modern, adequately sized, and properly configured facilities would improve maintenance and increase the efficiency of trainings, which would decrease the chance of accidents and injuries. New facilities and building additions would comply with all applicable health and safety regulations to further prevent on-the-job injuries. For example, utility systems in Building 1059 do not meet National Code standards; the new Security Forces Facility would be constructed to comply with all codes and standards. Demolishing Building 1059 would result in this area being returned to the airfield clear zone, which would diminish the potential for accidents. Furthermore, the proposed Security Forces Facility would provide the 150FW's Security Forces function with adequate space to perform its responsibilities, which could help prevent accidents and injuries caused by unauthorized personnel in secure areas.

#### 4.1.3 No Action

Occupying existing facilities would continue to adversely affect aircraft maintenance and limit training time, which have the potential to cause accidents and injuries. Using substandard facilities could also cause a reduction in operational efficiency or training opportunities and noncompliance with health and safety regulations, which could result in higher risk of injury or loss of life.

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## 4.2 AIR QUALITY

### 4.2.1 Approach to Analysis

In accordance with the CAAA, impacts on air quality due to a proposed activity are considered significant if projected emissions would:

- increase concentrations of ambient criteria pollutants precursors to levels exceeding NAAQS;
- increase concentrations of nonattainment pollutants;
- lead to establishment of any new nonattainment area by the USEPA; or
- delay achievement of attainment in accordance with the SIP.

### 4.2.2 Proposed Action

The proposed action involves construction of three buildings, additions to two buildings, and demolition of four buildings. Air quality impacts associated with these activities would occur from (1) fugitive dust from earthmoving, ground disturbance, building demolition, debris handling, and wind erosion of soil stockpiles, and (2) products of combustion from construction equipment. Long-term impacts to air quality would not result from implementation of the proposed action.

Construction-related impacts on air quality are temporary effects from short-term activities that would not contribute to an ongoing violation of an air quality standard. Fugitive dust emissions would be substantially reduced with implementation of standard control measures for minimizing fugitive dust. Such control measures include frequent spraying of water on exposed soil during construction and earthmoving, covering of soil stockpiles to reduce wind erosion, and prompt replacement of ground cover (grass and landscaping). Fuel combustion emissions from construction equipment would also be temporary, only occurring for the duration of the construction period.

Emissions of PM<sub>10</sub> were calculated using an USEPA emission factor for construction-related fugitive dust. The quantity of dust emissions from construction operations is proportional to the area of land being worked and the level of construction activity. This emission factor is based on field measurements of total suspended particulates (TSP) concentrations surrounding apartment and shopping center construction projects. The PM<sub>10</sub> emission factor is 0.77 tons/acre, assuming 64 percent of construction-related fugitive dust is PM<sub>10</sub> (USEPA 1985). The total area involved in construction/demolition is estimated to be approximately 140,000 square feet or 3.2 acres. The resulting PM<sub>10</sub> emissions are calculated to be 2.5 tons, which is well below the threshold level for PM<sub>10</sub> for General Conformity applicability and would therefore not be significant. This figure would likely be reduced by the measures discussed above for minimizing fugitive dust from construction activities.

Emissions of CO, SO<sub>2</sub>, NO<sub>x</sub>, and VOC from construction equipment exhaust associated with construction and demolition would be on the order of 1 to 4 tons per year per pollutant. This estimate of emissions is based on the construction equipment usage for a project involving construction of roughly 25 to 40 acres (Dames and Moore 2000) compared to the 3.2 acre total for the proposed action. These estimated emissions are well below the General

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Conformity applicability thresholds of 100 tons per year and therefore would not be significant.

#### 4.2.3 No Action

Under the no action alternative, there would be negligible impacts to air quality, as there would be no construction, modification, or demolition of buildings. No impacts to air quality above the baseline for Kirtland AFB would occur from combustion associated with repair and maintenance.

### 4.3 NOISE

#### 4.3.1 Approach to Analysis

Noise at NMANG is typically a primary concern associated with aircraft operations. The main issues regarding noise effects on humans are physiological effects (hearing loss and non-auditory effects), behavioral effects (speech interference, sleep interference, and performance effects), and subjective effects such as annoyance. The potential significance of noise impacts is determined by whether the DNL would be increased by a quantity that would be audible to receptors on or off NMANG property.

#### 4.3.2 Proposed Action

Aspects of the proposed action that would create noise include construction and demolition activities. These activities would be temporary, and their noise levels would be minor compared to aircraft noise described in Section 3.3.2. No change in type of aircraft or flight schedule or addition of substantial permanent noise generators would result from this action. In the long term, DNL values are not expected to change as a result of the proposed action. During construction and demolition, DNL values would negligibly increase in the immediate vicinity of the activity. No sensitive receptors would be affected by these short-term increases. Therefore, noise impacts associated with the proposed action would not be significant.

#### 4.3.3 No Action

Under this alternative, activities at the NMANG property would produce noise at levels described in Section 3.3.2. DNL values would continue to be dominated by aircraft noise. No change in noise levels would occur as a result of the NMANG maintaining and repairing current facilities.

### 4.4 LAND USE

#### 4.4.1 Approach to Analysis

Evaluating potential land use impacts involves assessing compatibility of the activity with existing land use, as well as its consistency with permissible or conditional land use under current regional zoning regulations. In general, land use impacts would be considered significant if they would (1) be inconsistent or noncompliant with applicable land use plans

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and policies, (2) prevent the continued use or occupation of an area, or (3) be incompatible with adjacent or nearby land use to the extent that public health or safety is threatened.

#### 4.4.2 Proposed Action

Constructing the Composite Support Facility on Ballfield 1 would have no impact on land use because this area is currently categorized as Command and Support use. Additions to Buildings 1079 and 1058 would occur in areas already designated Command and Support and Industrial, respectively, and hence would not result in a land use change. The proposed extension of C Street is already designated as a road and therefore would result in no change of land use.

Constructing the Security Forces Facility on the undeveloped land between Air Guard Drive and Randolph Drive would result in a change of land use from Open Space to Command and Support. This impact would not be considered significant because this land use change does not violate any NMANG or Kirtland AFB plans or policies.

Demolition of Building 1059 and landscaping the space or marking it as a "no parking" area would be a beneficial impact because an area categorized as Command and Support would be changed to a Safety Zone. This activity would bring a noncompliant land use into compliance with land use policies.

The 150FW would contact the City of Albuquerque Aviation Department when construction begins so that it can coordinate air spacing and security issues, as requested by the City of Albuquerque; a copy of the letter requesting this coordination is included in Appendix C.

#### 4.4.3 No Action

No changes to land use would occur as a result of maintaining and repairing existing facilities.

### 4.5 GEOLOGICAL RESOURCES

#### 4.5.1 Approach to Analysis

The protection of unique geologic features, the minimization of soil erosion, and the location of facilities in relation to potential geologic hazards are considered when evaluating impacts to geological resources. Generally, impacts on geological resources are not significant if proper construction techniques and erosion control measures are implemented to minimize or mitigate short- and long-term disturbances to soils and to overcome limitations imposed by earth resources.

#### 4.5.2 Proposed Action

Two of the proposed activities, construction of the new Composite Support Facility and construction of the new Security Forces Facility, would occur on undeveloped land. In addition, the extension of C Street between Falcon Drive and Randolph Drive would occur on unpaved surfaces. Because the proposed project area is relatively flat and has been previously disturbed from adjacent development, the topography would not be altered as a

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result of the proposed action. All access and staging of construction equipment would occur within previously disturbed areas or within the footprint of the proposed disturbance area. However, possible consequences to area geologic resources would include increased soil erosion/compaction during construction activities and the potential for increased risk due to geologic hazards (i.e., seismicity, liquefaction). Because the proposed project would disturb less than 5 acres, NMANG would amend the existing Storm Water Pollution Prevention Plan (SWP3) for Kirtland AFB to cover the project. To avoid impacts associated with the proposed construction activities, NMANG would utilize appropriate geotechnical construction methods and would implement erosion and sediment control best management practices (BMPs) as established in the SWP3. In addition, the proposed project elements would be designed in accordance with Uniform Building Code criteria. With implementation of these BMPs, impacts to geological resources would not be significant.

#### 4.5.3 No Action

Under the no action alternative, no construction or demolition activities would occur. Geologic resources would not be affected by repair and maintenance of existing facilities.

### 4.6 WATER RESOURCES

#### 4.6.1 Approach to Analysis

Criteria for determining the significance of impacts on water resources are based on the following factors: water availability, quality and use of water, existence of floodplains, and existence of wetlands. Impacts on water resources would be considered significant if an activity would:

- reduce availability or interfere with the supply of water to existing users;
- create or contribute to overdraft of groundwater basins or exceed the safe annual yield of water supply sources;
- adversely affect water quality or endanger public health by creating or worsening adverse health hazards or safety conditions;
- threaten or damage unique hydrologic characteristics;
- violate established laws or regulations that have been adopted to protect or manage water resources of an area; or
- occur in areas with a high probability of flooding.

#### 4.6.2 Proposed Action

Under the proposed action, potential impacts to water resources would include temporary effects such as increased sedimentation in stormwater runoff from demolition or grading activities or contamination from accidental spills of petroleum-based products during refueling or maintenance of construction equipment. To minimize temporary construction impacts, storm drain protection such as hay bales or silt curtains would be installed to all catch basins in the vicinity of the project area prior to the onset of construction activities. No refueling or maintenance of construction equipment would occur in the vicinity of catch basins. No hazardous chemicals (e.g., toxins, corrosives, flammables, oil/grease, fuels) would be discharged to the ground surface, catch basins, or sanitary sewer system during

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construction activities. Because the proposed project would disturb less than 5 acres, NMANG would amend the existing Storm Water Pollution Prevention Plan (SWP3) and Notice of Intent for the National Pollutant Discharge Elimination System (NPDES) General Construction Permit for Kirtland AFB to cover the project. NMANG would implement construction BMPs as identified by the SWP3 and NPDES Storm Water General Permit. Implementation of these provisions would ensure temporary impacts to water resources would be insignificant.

Potential long-term impacts from the proposed action include increased stormwater runoff due to an 1.5-acre increase in impervious surfaces at the NMANG property. The PPT for the base would evaluate the need for an oil water separator for catch basins in the vicinity of new buildings. NMANG would comply with all provisions outlined in the amended SWP3 and NPDES. Implementation of these provisions would ensure long-term impacts to water resources would be insignificant.

Because there would be no increase in personnel under the proposed action, demand for potable water is expected to remain at its current level. To further reduce the demand placed on the public water supply, the new Composite Support Facility and Security Forces Facility would install low-flow plumbing fixtures and use landscaping and irrigation conducive to water conservation. As discussed in Section 3.6.2.1, groundwater recharge is not suspected to occur in the vicinity of the NMANG property due to hydrogeologic conditions (depth to groundwater, precipitation levels, and geologic substrate); therefore, increased impervious surfaces are not expected contribute to a decrease in groundwater recharge. Therefore, impacts to groundwater and potable water are not expected to be significant.

#### 4.6.3 No Action

Under the no action alternative, there would be no impacts to water resources associated with increases in impervious surfaces or demand on the Rio Grande Underground Water Basin. However, potential benefits to water conservation identified under the proposed action (e.g., low-flow plumbing fixtures) would not be realized. Stormwater runoff would continue to flow from the existing structures through established drainage patterns, and the PPT would continue to implement the provisions of the SWP3.

### 4.7 BIOLOGICAL RESOURCES

#### 4.7.1 Approach to Analysis

Determination of significance for impacts on biological resources is based on the following factors:

- the importance (legal, commercial, recreational, ecological, or scientific) of the resource;
- the proportion of the resource that would be affected relative to its occurrence in the region;
- the sensitivity of the resource to proposed activities; and
- the duration of ecological ramifications.

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Impacts on biological resources are considered significant if endangered or threatened species or habitats would be adversely affected, or if disturbances would cause a significant reduction in population size or distribution of a species of high concern.

Federal, state, and local agencies were contacted to determine the presence and/or potential occurrence of sensitive species and habitats in the study area. Potential physical impacts, such as habitat loss, were evaluated to assess potential impacts on biological resources resulting from implementation of the proposed action.

#### 4.7.2 Proposed Action

Under the proposed action, impacts to area vegetation and wildlife would include the loss of approximately 1.5 acres of grassland area that is known to support Gunnison's prairie dog and western burrowing owl populations. Vegetation in this area consists of disturbed grasslands; therefore loss of this vegetation would be an insignificant impact. Gunnison's prairie dog is afforded no protection under Federal or state endangered species acts. They are common throughout developed portions of Kirtland AFB and are treated under the base's pest management program. Therefore, impacts that would occur from the loss of habitat, injury, or mortality to Gunnison's prairie dog resulting from the proposed action would not be significant.

Burrowing owls are listed as a California Species of Special Concern by the California Department of Fish and Game (CDFG), a Federal species of concern per the Endangered Species Act, and they are protected under the Migratory Bird Treaty Act (MBTA). Per the MBTA, the take of burrowing owls is prohibited. Therefore, to ensure that no take occurs and to reduce the potential for adverse impacts to the burrowing owl population, 150FW would follow CDFG protocol to passively exclude and relocate burrowing owls from the project site, and would obtain additional guidance (permit if necessary) from the USFWS. In implementing the project, the 150FW would be responsible for following all guidelines put forth in the USFWS guidance or permit, including any timing restrictions.

The common practice of Kirtland AFB is to passively exclude and relocate burrowing owls (per CDFG protocol) when and if they are present in a project area. Typically, passive exclusion and relocation measures are conducted outside of the normal breeding season (February 1 through August 31) and consist of the following steps:

- Pre-breeding/pre-construction surveys for burrowing owl would be conducted by a qualified biologist in the project area (including a 250-foot buffer zone) to determine presence/absence of the species.
- If burrowing owls are absent, all burrows and potential burrow sites (e.g., prairie dog burrows) within the project area would be closed prior to construction, and monitored twice weekly for the duration of construction activities to preclude burrowing owl occupation of the project site.
- If burrowing owls are present in the project area, unoccupied burrows would be closed, artificial nest boxes/burrows would be placed at a 2:1 ratio at suitable locations at least 250 feet from the project site, and passive relocation would occur by installing one-way exit doors on occupied burrows. The site would then be monitored daily to preclude owls

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from moving back to the project area. In addition, a visual barrier should be installed along the project site to protect owls from construction disturbance.

By implementing these measures, the 150FW would minimize impacts to burrowing owls, comply with the Migratory Bird Treaty Act, and help prevent burrowing owls from being listed under the Endangered Species Act. Therefore, no significant impacts to burrowing owls would result.

No impacts to wetlands or riparian habitat would occur under the proposed action due to the absence of these community types within the project area.

#### 4.7.3 No Action

Because no construction would occur under the no action alternative, there would be no impacts to area vegetation and wildlife. Prairie dog populations at the NMANG property would continue to be controlled under current pest management programs. Both the undeveloped parcel located between Air Guard and Randolph Drives and the ballfield east of Falcon Drive would remain undeveloped. The monitoring of burrowing owl populations would continue as currently occurs.

### 4.8 TRANSPORTATION AND CIRCULATION

#### 4.8.1 Approach to Analysis

Impacts on transportation and circulation would be considered significant if the proposed action were expected to affect the safety and capacity of roads in the region. Additionally, impacts would be considered significant if the proposed action generated enough additional vehicle trips on major regional roads or secondary local roads to increase potential for disruption or congestion along current transportation routes.

#### 4.8.2 Proposed Action

The proposed action would not increase personnel of the 150FW and therefore would not increase the number of vehicle trips to or on the NMANG property in the long term. Because the proposed action would create a new entrance to the NMANG property via the proposed extension of C, traffic circulation is expected to improve, thereby resulting in a beneficial long-term impact. Furthermore, approximately 130 parking spaces would be constructed, which would bring the 150FW close to the authorized number of POV parking spaces—another beneficial long-term impact.

During construction and demolition activities, a small number of parking spaces would likely be removed from use for staging equipment. Based on the schedule of activities, however, new parking spaces associated with the Composite Support Facility and the Security Forces Facility would likely be constructed before the temporary removal of parking spaces near Buildings 1045, 1053, 1058, or 1079. These impacts would be temporary in duration, minor in intensity, and localized in area and therefore would not be significant.

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#### 4.8.3 No Action

Maintaining and repairing existing buildings would not result in impacts to transportation, circulation, and parking.

### 4.9 VISUAL RESOURCES

#### 4.9.1 Approach to Analysis

Determination of the impact significance with respect to visual resources is partly based on the level of visual sensitivity in an area. Visual sensitivity is defined as the degree of public interest in a visual resource and concern over adverse changes in the quality of that resource. In general, an impact on a visual resource is significant if implementation of an activity would result in a substantial alteration of a sensitive visual setting.

#### 4.9.2 Proposed Action

Under the proposed action, there would be minimal impacts to visual resources due to the lack of high quality views in the project area and immediate vicinity. Older buildings at NMANG would be demolished and replaced with modern facilities. The new buildings would be located in an area dominated by urban land uses and designed consistent with other facilities on the base to provide a synchronous view for neighboring facilities. All new buildings would be no more than one story and additions would not be taller than the buildings they are added to. Therefore, new construction would not block higher quality views to the east and south of Kirtland AFB. Landscaping would be installed surrounding the new facilities, to provide an aesthetically pleasing environment. Replacing deteriorating facilities with new buildings sympathetic to existing architecture would result in a beneficial impact.

#### 4.9.3 No Action

Under the no action alternative, there would be no impacts to visual resources as the existing buildings on the NMANG property would remain, and no new construction would occur. Older buildings would remain in place, continuing to deteriorate with the passing years.

### 4.10 CULTURAL RESOURCES

#### 4.10.1 Approach to Analysis

Cultural resources are subject to review under both Federal and state laws and regulations. Section 106 of the NHPA empowers the Advisory Council on Historic Preservation to comment on Federally initiated, licensed, or permitted projects affecting cultural sites listed in, or eligible for inclusion in, the NRHP.

Once cultural resources have been identified, resources are assessed against defined significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. This process is known as significance evaluation. Significance evaluation is generally guided by specific criteria for listing cultural resources on the NRHP.

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Only cultural resources that are determined to be significant are protected under Section 106 of the NHPA.

#### 4.10.2 Proposed Action

The actions described in this EA meet all the requirements of the National Historic Preservation Act (36 CFR Part 800). The historic and cultural resources involved in this undertaking have been reviewed under the regulations of Section 106 of this Act.

The actions described in this EA may have adverse effects to Tribal Cultural Properties. The Governors/Chairmen/Presidents of the tribes have been sent the Description of Proposed Actions and Alternatives for this action and for their comments.

The 150FW sent copies of the DOPAA and a request for comments to the Native American organizations listed in Appendix B. Only one response was received; this is included in Appendix C. Representatives of the Federally recognized Ysleta Del Sur Pueblo acknowledged initiation of consultation regarding the proposed action. The Pueblo noted that it has a cultural affiliation with the Manzano Area, which is on Kirtland AFB. If cultural resources are discovered during project construction, Kirtland AFB's cultural resources manager would contact representatives of the Ysleta Del Sur Pueblo, as requested in their letter.

As described above, a Class III archaeological survey was conducted on the NMANG property. This survey was negative for archaeological resources, including areas that would be subject to ground-disturbing activities resulting from the proposed action. Further, Buildings 1045, 1053, 1058, 1059, and 1079 were determined to not be eligible to the NRHP (Nancy Hanks, Elizabeth Oster, May 23, 2001). Appendix C contains copies of the SHPO representatives' responses, which concurred that the proposed action would not affect historic properties. The proposed action would not have significant impacts on cultural resources.

#### 4.10.3 No Action

As discussed above, none of the facilities that would undergo routine repair and maintenance are eligible for listing to the NRHP. Therefore, these activities would not result in impacts to cultural resources.

### 4.11 SOCIOECONOMICS

#### 4.11.1 Approach to Analysis

Methods used to determine the potential for the proposed action to impact social or economic activity within the ROI included an assessment of potential population or expenditure changes. Impacts would be considered significant if they would adversely impact regional or local economic patterns.

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#### 4.11.2 Proposed Action

The proposed action would not increase personnel of the 150FW and therefore would not impact demographics at Kirtland AFB or in the Albuquerque area.

Implementing all components of the proposed action is estimated to cost approximately \$6 million over approximately 3 years, which averages to approximately \$2 million per year. In FY 1998, \$40 million was spent at Kirtland AFB for construction projects. Assuming a similar amount is spent on construction project in FY 2001 through FY 2003, the proposed action would comprise approximately 5 percent of construction-related expenditures at Kirtland. Although this would be a beneficial economic impact to the Albuquerque area, it would be negligible considering the proposed action construction costs would comprise approximately 0.1 percent of construction-related expenditures in the area.

As stipulated in EO 12898, Environmental Justice in Minority and Low-Income Populations, and EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, regional demographic characteristics within the region of influence were assessed. However, since no significant environmental impacts would occur as a result of the proposed action, no populations (minority, low-income, or otherwise) would be disproportionately impacted; therefore, no significant impacts with regard to environmental justice would result. Air quality, noise, geologic resources, water quality, and hazardous materials and wastes were evaluated specifically for potential environmental health risks to children. Impacts to these resources were negligible; therefore implementation of the proposed action would not result in environmental health risks to children. Potential safety risks associated with the proposed action only include risks to contractors and NMANG personnel involved with construction and training activities. Furthermore, many of these impacts would be beneficial. Therefore, implementation of the proposed action would not result in environmental safety risks to children.

#### 4.11.3 No Action Alternative

No demographic effects would occur from maintaining and repairing existing facilities. Although some beneficial economic impacts would occur from activities, expenditures would be a fraction of those spent under the proposed action and therefore would also be negligible.

### 4.12 HAZARDOUS MATERIALS AND WASTES

#### 4.12.1 Approach to Analysis

Federal, state, and local laws regulate the storage, disposal, and transportation of hazardous materials and wastes. These laws have been established to protect human health and the environment from potential impacts. The significance of impacts associated with hazardous wastes and materials is based on the toxicity of the substance, transportation and storage risk, and the method of waste disposal. Impacts are considered significant if the storage, use, transportation, or disposal of these substances increases human health risks or environmental exposure.

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#### 4.12.2 Proposed Action

Under the proposed action there would be no change in hazardous materials use or storage or hazardous waste storage or disposal. In addition, there would be no increase in the amount of hazardous wastes generated by the proposed facilities. Implementation of each of the proposed project components would follow applicable procedures for hazardous materials use and disposal. All demolition wastes (e.g., asphalt, concrete, building materials) would be disposed of at appropriate disposal facilities. Following applicable procedures for the use and disposal of hazardous materials and wastes would not result in significant impacts.

During demolition of Buildings 1045, 1053, and 1059, appropriate safety and handling procedures for the disposal of ACBM would be followed in accordance with the Kirtland AFB Asbestos Management Plan (AFR 91-42). A survey for LBP would be conducted prior to the demolition of Buildings 1045, 1053, and 1059. If LBP is identified, materials treated with LBP would be handled and disposed of in accordance with the Kirtland AFB Lead-Based Paint Management Plan (Kirtland AFB 1995). The PPT for the base would evaluate the need for an oil water separator for catch basins in the vicinity of new buildings. Implementation of these measures would ensure no significant impacts would result from proposed activities.

#### 4.12.3 No Action

Under the no action alternative, hazardous materials use and storage and hazardous waste storage and disposal at the NMANG would remain as currently occurs. ACBM would remain intact in Buildings 1045, 1053, and 1059 until further renovation of the buildings is conducted.

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## 5.0 CUMULATIVE IMPACTS

CEQ regulations stipulate that potential environmental impacts resulting from cumulative impacts should be considered within an EA. Cumulative impacts are defined as “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency or person undertakes such other actions” (40 CFR § 1508.7). Cumulative impacts can result from minor, but collectively substantial actions undertaken over a period of time by various agencies (Federal, state, or local) or persons. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, currently under construction, recently completed, or anticipated to be implemented in the near future is necessary.

At this time, no projects are known to be proposed, under construction, recently completed, or anticipated within the project area (150FW 2001). In addition, all surrounding lands are developed or disturbed and no other projects have been identified that could cumulatively impact resources within the proposed project area or on adjacent properties (within a quarter of a mile). Therefore, no significant cumulative impacts would be expected to result from implementation of the proposed action.

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## 6.0 SUMMARY OF FINDINGS

This EA evaluates the potential impacts on environmental and human resources that would result from nine separate but related actions proposed by the 150FW:

- construct a new Composite Support Facility on Ballfield 1 between Air Guard Drive and Falcon Drive in the eastern portion of the NMANG base (approximately 15,800 square feet);
- build an addition on the south side of the Composite Medical Training Facility, Building 1079 (approximately 1,972 square feet);
- construct a new Security Forces Facility on vacant land between Air Guard Drive and Randolph Drive in the eastern portion of the NMANG base (approximately 6,500 square feet);
- build an addition on the west and north of the Vehicle Maintenance Facility, Building 1058 (approximately 2,836 square feet);
- demolish the Communications Building, 1045;
- demolish the Finance Building, 1053;
- extend C Street between Falcon Drive and Randolph Drive;
- demolish the Security Forces Building, 1059; and
- relocate the static displays from their current location east of Falcon Drive near Building 1054 to the intersection of the extended C Street and Randolph Drive.

This document is part of the USAF EIAP as set forth in 32 CFR 989. This EIAP implements NEPA and the regulations implementing NEPA promulgated by the President's CEQ as 40 CFR 1500-1508.

### Safety

Temporary impacts to safety would be negligible. During construction, contractor personnel would be responsible for compliance with all applicable occupational health and safety regulations and work compensation programs. Contractors would be required to conduct construction and demolition activities in a manner that would not pose any risk to 150FW personnel. Long-term impacts to safety would be beneficial. Modern, adequately sized, and properly configured facilities would improve maintenance and increase the efficiency of trainings, which would decrease the chance of accidents and injuries. New facilities and building additions would comply with all applicable health and safety regulations to further prevent on-the-job injuries. Safety-related impacts resulting from the proposed action would not be significant.

### Air Quality

Long-term impacts to air quality would not result from implementation of the proposed action. Temporary air quality impacts associated with construction and demolition activities would occur from (1) fugitive dust from earthmoving, ground disturbance, building

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demolition, debris handling, and wind erosion of soil stockpiles, and (2) products of combustion from construction equipment. Construction-related impacts on air quality are temporary effects from short-term activities that would not contribute to an ongoing violation of an air quality standard. PM<sub>10</sub> emissions are estimated to be 2.5 tons for construction and demolition activities, which is well below the threshold level for PM<sub>10</sub> for General Conformity applicability. Emissions of CO, SO<sub>2</sub>, NO<sub>x</sub>, and VOC from construction equipment exhaust associated with construction and demolition would be on the order of 1 to 4 tons per year per pollutant—also well below the General Conformity applicability thresholds. Air quality impacts caused by the proposed action would therefore not be significant.

### Noise

Aspects of the proposed action that would create noise include construction and demolition activities. These activities would be temporary, and their noise levels would be minor compared to aircraft noise at Kirtland AFB and Albuquerque International Airport. In the long term, DNL values are not expected to change as a result of the proposed action. During construction and demolition, DNL values would negligibly increase in the immediate vicinity of the activity. No sensitive receptors would be affected by these short-term increases. Therefore, noise impacts associated with the proposed action would not be significant.

### Land Use

Construction of the Composite Support Facility on Ballfield 1, additions to Buildings 1079 and 1058, and the extension of C Street would occur in compliance with existing land use designations. Constructing the Security Forces Facility on the undeveloped land between Air Guard Drive and Randolph Drive would result in a change of land use from Open Space to Command and Support; however, this land use change does not violate any NMANG or Kirtland AFB plans or policies. Demolition of Building 1059 and landscaping the space or marking it as a “no parking” area would be a beneficial impact because an area categorized as Command and Support would be changed to a Safety Zone. Therefore, no significant impacts associated with land use would occur from implementation of the proposed action.

### Geological Resources

Because the proposed project area is relatively flat and has been previously disturbed from adjacent development, the topography would not be altered as a result of the proposed action. All access and staging of construction equipment would occur within previously disturbed areas or within the footprint of the proposed disturbance area. Possible consequences to area geologic resources would include increased soil erosion/compaction during construction activities and the potential for increased risk due to geologic hazards (i.e., seismicity, liquefaction). To avoid impacts associated with the proposed construction activities, NMANG would utilize appropriate geotechnical construction methods and employ BMPs. NMANG would also implement an erosion and sediment control plan for the proposed construction activities. With implementation of these BMPs, impacts to geological resources would not be significant.

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## Water Resources

To minimize temporary construction impacts, storm drain protection would be installed to all catch basins in the vicinity of the project area. Potential long-term impacts from the proposed action include increased stormwater runoff due to a 1.5-acre increase in impervious surfaces at the NMANG property. The PPT for the base would evaluate the need for an oil water separator for catch basins in the vicinity of new buildings. NMANG would amend the existing SWP3 and Notice of Intent for the NPDES General Construction Permit for Kirtland AFB. In addition, NMANG would need to implement construction BMPs for the project and comply with all provisions outlined in the SWP3 and NPDES Storm Water General Permit. Because there would be no increase in personnel under the proposed action, demand for potable water is expected to remain at its current level. Groundwater recharge is not suspected to occur in the vicinity of the NMANG property due to hydrogeologic conditions; therefore, increased impervious surfaces are not expected contribute to a decrease in groundwater recharge. No significant impacts to water resources would occur from implementation of the proposed action.

## Biological Resources

Under the proposed action, impacts to area vegetation and wildlife would include the loss of approximately 1.5 acres of grassland area that is known to support Gunnison's prairie dog and western burrowing owl populations. Vegetation in this area consists of disturbed grasslands. Gunnison's prairie dog is afforded no protection under Federal or state endangered species acts. Burrowing owls are listed as a California Species of Special Concern by the California Department of Fish and Game (CDFG), a Federal species of concern per the Endangered Species Act, and they are protected under the Migratory Bird Treaty Act (MBTA). Per the MBTA, the take of burrowing owls is prohibited. Therefore, to ensure that no take occurs and to reduce the potential for adverse impacts to the burrowing owl population, 150FW would follow CDFG protocol to passively exclude and relocate burrowing owls from the project site, and would obtain additional guidance (permit if necessary) from the USFWS. In implementing the project, the 150FW would be responsible for following all guidelines put forth in the USFWS guidance or permit, including any timing restrictions. No significant impacts to biological resources would result from implementation of the proposed action.

## Transportation and Circulation

The proposed action would not increase personnel of the 150FW and therefore would not increase the number of vehicle trips to or on the NMANG property in the long term. Because the proposed action would create a new entrance to the NMANG property via the proposed extension of C Street and would shift activities to a currently undeveloped portion of the base, traffic circulation is expected to improve, thereby resulting in a beneficial long-term impact. Furthermore, approximately 130 parking spaces would be constructed, which would bring the 150FW close to the authorized number of POV parking spaces—another beneficial long-term impact. During construction and demolition activities, a small number of parking spaces would likely be removed from use for staging equipment. These impacts would be

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temporary in duration, minor in intensity, and localized in area. Therefore, the proposed action would not cause significant impacts to transportation and circulation.

### Visual Resources

Under the proposed action, there would be minimal impacts to visual resources due to the lack of high quality views in the project area and immediate vicinity. Older buildings at NMANG would be demolished and replaced with modern facilities. The new buildings would be located in an area dominated by urban land uses and designed consistent with other facilities on the base to provide a synchronous view for neighboring facilities. All new buildings would be no more than one story and additions would not be taller than the buildings they are added to. Therefore, new construction would not block higher quality views to the east and south of Kirtland AFB. No significant impacts to visual resources would result from implementation of the proposed action.

### Cultural Resources

A Class III archaeological survey conducted on the NMANG property was negative for archaeological resources. Further, Buildings 1045, 1053, 1058, 1059, and 1079 were determined to not be eligible to the NRHP. Representatives of the SHPO concurred that the proposed action would not affect historic properties in a letter from Nancy Hanks and Elizabeth Oster dated May 23, 2001. The 150FW sent copies of the DOPAA and a request for comments to the Native American organizations in the area. Only one response was received: the Ysleta Del Sur Pueblo requested to be contacted if cultural resources were discovered during project construction. If buried cultural deposits are discovered during construction, all ground-disturbing activities would halt, and the 150FW would contact the Kirtland AFB cultural resources manager. In addition, the Kirtland AFB would contact representatives of the Ysleta Del Sur Pueblo. The proposed action would not have significant impacts on cultural resources.

### Socioeconomics

The proposed action would not increase personnel of the 150FW and therefore would not impact demographics at Kirtland AFB or in the Albuquerque area. Implementing all components of the proposed action is estimated to cost approximately \$6 million over approximately 3 years. Although this would be a beneficial economic impact to the Albuquerque area, it would be negligible compared to all construction-related expenditures in the area. As stipulated in EO 12898, Environmental Justice in Minority and Low-Income Populations, and EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, regional demographic characteristics within the region of influence were assessed. However, since no significant environmental impacts would occur as a result of the proposed action, no populations would be disproportionately impacted. Furthermore, implementation of the proposed action would not result in environmental health risks or safety risks to children because implementation of the proposed action would not result in such risks to the general population. Therefore, the proposed action would not cause significant impacts to socioeconomic resources.

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## Hazardous Materials and Wastes

Under the proposed action there would be no change in hazardous materials use or storage or hazardous waste storage or disposal. In addition, there would be no increase in the amount of hazardous wastes generated by the proposed facilities. Implementation of each of the proposed project components would follow applicable procedures for hazardous materials use and disposal. All demolition wastes would be disposed of at appropriate disposal facilities. During demolition of Buildings 1045, 1053, and 1059, appropriate safety and handling procedures for the disposal of ACMF would be followed in accordance with the Kirtland AFB Asbestos Management Plan. A survey for LBP would be conducted prior to the demolition of Buildings 1045, 1053, and 1059. If LBP is identified, materials treated with LBP would be handled and disposed of in accordance with the Kirtland AFB Lead-Based Paint Management Plan. The PPT for the base would evaluate the need for an oil water separator for catch basins in the vicinity of new buildings. No significant impacts associated with hazardous materials and wastes would occur from implementation of the proposed action.

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## 7.0 PERMITS AND NOTIFICATIONS

The impact evaluations presented in this EA have determined that no significant environmental impacts are expected to occur as a result of implementation of the proposed short-term construction projects. This determination is based on thorough review and analysis of existing resource information, the application of accepted modeling methods, and coordination with responsible personnel from a number of local, state, and Federal agencies. The following procedures required for implementation of the proposed development and use of the proposed action evaluated in this EA include the following:

- The 150FW would contact the City of Albuquerque Aviation Department when construction begins so that it can coordinate air spacing and security issues.
- The 150FW would amend the existing SWP3 and Notice of Intent for the NPDES General Construction Permit for Kirtland AFB. The PPT for the base would be required to evaluate the need for an oil water separator for catch basins in the vicinity of new buildings.
- The 150FW would follow USFWS and CDFG guidance, including obtaining a permit if necessary, to ensure that burrowing owls are protected as required by the Migratory Bird Treaty Act.
- If buried cultural deposits are discovered during construction, all ground-disturbing activities would halt, and the 150FW would contact the Kirtland AFB cultural resources manager. In addition, the 150FW would contact representatives of the Ysleta Del Sur Pueblo.

Implementation of these procedures will be required through inclusion in the contract agreements between the 150FW and the contractors conducting work.

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- United States Army Corps of Engineers. 1995. Wetland Inventory Survey, Kirtland Air Force Base. Albuquerque District. May 31.

- 
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- Van Citters Historic Preservation (Van Citters). 2000. National Register of Historic Places Eligibility Evaluation of Air National Guard Buildings, Kirtland Air Force Base, New Mexico. Prepared for 377 ABW, Environmental Management Division. September.
- Wallace, Shane. Undated. Kirtland Air Force Base Economic Impact Analysis, Fiscal Year 1998. Presented to 377<sup>th</sup> Air Base Wing.
- Woodward, Lee. 1982. Tectonic Framework of Albuquerque Country. New Mexico Geological Society Guidebook, 33<sup>rd</sup> Field Conference, Albuquerque Country II.

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## 9.0 LIST OF PREPARERS

This report was prepared for, and under the direction of, the Air National Guard Readiness Center Environmental Division by URS Corporation (URS) under contract to Parsons Engineering Science, Inc. Members of the professional staff are listed below:

### Project Management

Robert Dogan, Environmental Protection Specialist, Air National Guard Readiness Center  
Morgan Griffin, Project Manager, URS  
Harry Butler, Program Manager, URS

### Quality Assurance

Colin Vissering, Technical Director, URS

### Technical Analysts

Janet Frentzel, Scientist, URS  
Morgan Griffin, Senior Project Scientist, URS  
Cheri Velzy, Scientist, URS  
Brian Hatoff, Senior Project Archaeologist, URS

### Graphics

Fumiko Goss, Graphic Artist, URS  
Richard Agliano, Graphic Technician, URS

### Reviewers

MAJ Marsha Julian, Environmental Manager, 150FW  
TSGT Matt Kappler, Environmental Coordinator, 150FW  
MAJ Christopher Adams, Deputy Base Civil Engineer, 150FW  
Marsha Carra, NEPA Program Manager, 377 CES  
Bob Dow, Natural Resources Program Manager, 377 CES  
Valerie Butler, Cultural Resources Manager, Kirtland AFB

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Appendix A  
Sample IICEP Consultation Letter

Sample IICEP Consultation Letter

ANG/CEVP  
3500 Fetchet Avenue  
Andrews AFB, Maryland 20762-5157

«FIRST\_MI» «LAST»  
«TITLE»  
«ADDRESS1»  
«ADDRESS2»  
«ADDRESS3»  
«ADDRESS4»  
«CITY», «STATE\_» «ZIP»

Dear «MsMr» «LAST»

The Air National Guard (ANG) has initiated a short-term construction program for the 150<sup>th</sup> Fighter Wing (150 FW), located at Kirtland Air Force Base, New Mexico. The purpose of the construction program is to expand or replace undersized or substandard facilities at the 150 FW. The proposed action includes two new construction projects, three demolition projects, two projects involving expansion of existing facilities, and two projects involving circulation and aesthetics.

In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your assistance by reviewing the Description of Proposed Action and Alternatives (DOPAA) contained in Attachment 1 and providing comments. In accordance with Council on Environmental Quality Regulations to comply with the National Environmental Policy Act of 1969, the ANG will prepare an environmental assessment (EA) for the proposed construction activities contained in the DOPAA. We also request your assistance in advising appropriate agencies of this action and soliciting their comments regarding potential environmental impacts. Offices listed on Attachment 2 have also received this package; if there are additional agencies you feel should review and comment on the proposal, please include them in your distribution of these materials.

Please review this information and respond with comments within 60 days of receiving this letter. Responses should be directed to our consultant, URS Corporation. The point of contact is Mr. Morgan Griffin; he can be reached at (510) 874-3071. Please forward written comments to Mr. Griffin, 500 12<sup>th</sup> Street, Suite 200, Oakland, California 94607. Thank you for your assistance.

Sincerely,

HARRY A. KNUDSEN, JR.  
Chief, Environmental Planning Branch  
Environmental Division

Attachments:

1. DOPAA
2. Distribution List

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Appendix B  
List of IICEP Agencies Contacted

## List of IICEP Agencies Contacted

Ms. Jennifer Fowler-Propst  
State Supervisor  
U.S. Fish and Wildlife Service  
New Mexico Ecological Services State  
Office  
2105 Osuna NE  
Albuquerque, NM 87113

Mr. Gerald A. Maracchini  
Director  
New Mexico Department of Game and  
Fish  
Villagra Building  
P.O. Box 25112  
Santa Fe, NM 87504

Mr. Tobias J. McBride  
Assistant Information Manager  
New Mexico Natural Heritage Program  
University of New Mexico  
Department of Biology  
2500 Yale Blvd. SE, Suite 100  
Albuquerque, NM 87131-1091

Ms. Jan Biella  
Deputy SHPO  
State Historic Preservation Office  
Villa Rivera  
228 East Palace Avenue  
Santa Fe, NM 87503

Mr. Jay Czar  
Sunport Aviation Director  
P.O. Box 9948  
Albuquerque, NM 87119

Mr. Jim Hind  
Sunport Facilities Engineering  
Coordinator  
P.O. Box 9948  
Albuquerque, NM 87119

Mr. James P. Fitzgerald  
Assistant City Attorney  
1 Civic Plaza NW  
P.O. Box 2248  
Albuquerque, NM 87103

The Honorable Cyrus J. Chino  
Governor, Pueblo of Acoma  
P.O. Box 309  
Acoma, NM 87034

The Honorable Regis Pecos  
Governor, Pueblo of Cochiti  
P.O. Box 70  
Cochiti, NM 87022

The Honorable Alvino Lucero  
Governor, Pueblo of Isleta  
Southern Pueblos Agency  
P.O. Box 1270  
Isleta, NM 87022

The Honorable Joe V. Cajero  
Governor, Pueblo of Jemez  
P.O. Box 100  
Jemez Pueblo, NM 87024

The Honorable Claudia J. Vigil-Muniz  
President, Jicarilla Apache Tribe  
P.O. Box 507  
Dulce, NM 87528

The Honorable Harry D. Early  
Governor, Pueblo of Laguna  
P.O. Box 194  
Laguna, NM 87026

The Honorable Sarah Misquez  
President, Mescalero Apache Tribe  
P.O. Box 176  
Mescalero, NM 88340

The Honorable David A. Perez  
Governor, Pueblo of Nambe  
Route 1, Box 117-BB  
Santa Fe, NM 87501

The Honorable Clarence Chile  
Governor, Pueblo of Picuris  
P.O. Box 127  
Penasco, NM 87553

The Honorable Jacob Viarrial  
Governor, Pueblo of Pojoaque  
Route 11, Box 71  
Santa Fe, NM 87501

## List of IICEP Agencies Contacted

The Honorable L. Pino  
President, Ramah Navajo Chapter  
Route 2, Box 13  
Ramah, NM 87321

The Honorable Lawrence Trancosa  
Governor, Pueblo of San Felipe  
P.O. Box 4339  
San Felipe Pueblo, NM 87001

The Honorable Perry Martinez  
Governor, Pueblo of San Ildefonso  
Route 5, Box 315-A  
Santa Fe, NM 87501

The Honorable Wilfred Garcia  
Governor, Pueblo of San Juan  
P.O. Box 1099  
San Juan Pueblo, NM 87566

The Honorable Stuart Paisano  
Governor, Pueblo of Sandia  
Box 6008  
Bernalillo, NM 87004

The Honorable Bruce Sanchez  
Governor, Pueblo of Santa Ana  
2 Dove Rd.  
Bernalillo, NM 87004

The Honorable Denny Gutierrez  
Governor, Pueblo of Santa Clara  
P.O. Box 580  
Española, NM 87532

The Honorable Ramon C. Garcia  
Governor, Pueblo of Santo Domingo  
P.O. Box 99  
Santo Domingo Pueblo, NM 87052

The Honorable John E. Baker, Jr.  
Chairman, Southern Ute Tribe  
P.O. Box 737  
Ignacio, CO 81137

The Honorable Nelson J. Cordova  
Governor, Pueblo of Taos  
P.O. Box 1846  
Taos, NM 87571

The Honorable Charlie Dorame

Governor, Pueblo of Tesuque  
Route 5, Box 360-T  
Santa Fe, NM 87501

The Honorable Ernest House  
Chairman, Ute Mountain Ute Tribe  
General Delivery  
Towaoc, CO 81334

The Honorable Albert Alvidrez  
Governor, Ysleta Del Sur Pueblo  
P.O. Box 17579-Ysleta Station  
El Paso, TX 79917

The Honorable William Toribio  
Governor, Pueblo of Zia  
135 Capital Square Drive  
Zia Pueblo, NM 87053

The Honorable Malcolm B. Bowekaty  
Governor, Pueblo of Zuni  
P.O. Box 339  
Zuni, NM 87327

Marla Painter  
506 Valley High SW  
Albuquerque, NM 87105

Alan Marks  
240 Valley High SW  
Albuquerque, NM 87105

Spruce Park Neighborhood Association  
1206 Las Lomas Rd. NE  
Albuquerque, NM 87106

Ms. Maggie Santiago  
Public Affairs Officer  
Albuquerque International Sunport  
P.O. Box 9022  
Albuquerque, NM 87119

Ms. Joyce Porter  
Federal Aviation Administration  
Ft. Worth, TX 76193-0640

Mike Provine  
Molzen-Corbin & Association  
2701 Miles Rd. SE  
Albuquerque, NM 87106

## List of IICEP Agencies Contacted

Kathy Caffrey  
540 Zartman Rd. SW  
Albuquerque, NM 87105

Frank O'Sullivan  
1206 Las Lomas NE  
Albuquerque, NM 87106

Stephen Mills  
212 Richmond SE  
Albuquerque, NM 87106

Mr. Alan Paxton  
314 Cornell Dr SE  
Albuquerque, NM 87106

Mrs. Merideth Paxton  
314 Cornell Dr SE  
Albuquerque, NM 87106

Ms. Mardon Gardella  
411 Maple St NW  
Albuquerque, NM 87106

Marianne Dickinson  
P.O. Box 4875  
Albuquerque, NM 87196

Mr. Joe Price  
US Forest Service  
Sandia Ranger District  
Cibola National Forest  
11776 Highway 337  
Tijeras, NM 87509

Department of Energy  
P.O. Box 5400  
Albuquerque, NM 87185-5400

Hazardous and Radioactive Materials  
Bureau  
New Mexico Environment Department  
P.O. Box 26110  
2044A Galisteo  
Santa Fe, NM 87502

Mr. Mike Johnson  
New Mexico Game and Fish Department  
3841 Midway Place NE  
Albuquerque, NM 87109

The Honorable Jeff Bingaman  
U.S. Senator  
625 Silver SW, Suite 130  
Albuquerque, NM 87102

The Honorable Pete Domenici  
U.S. Senator  
625 Silver SW, Suite 330  
Albuquerque, NM 87102

The Honorable Heather Wilson  
U.S. House of Representatives  
625 Silver SW, Suite 340  
Albuquerque, NM 87102

The Honorable Tom Udall  
U.S. House of Representatives  
Rio Rancho City Hall  
3900 Southern Blvd SE  
Rio Rancho, NM 87124

The Honorable Joe Skeen  
U.S. House of Representatives  
1717 West Second Street, Suite 100  
Roswell, NM 88201

Mr. Mark Burkhauser  
Public Information  
New Mexico Game and Fish Dept.  
3841 Midway Place NE  
Albuquerque NM 87109

Bureau of Land Management  
Albuquerque Field Office  
Attn: Gretchen Obenauf  
435 Montano Rd. NE  
Albuquerque NM 87107

Wayne Taylor Jr.  
HOPI  
P.O. Box 123  
Kykotsmovi, Arizona 86039

The Honorable Kelsey A. Begaye  
President, Navajo Nation  
P.O. Box 9000  
Window Rock, AZ 86515

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Appendix C  
Response Letters from IICEP Agencies

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Response Letters from IICEP Agencies  
Table of Contents

State of New Mexico, Office of Cultural Affairs Historic Preservation Division, November 13, 2000

State of New Mexico, Office of Cultural Affairs Historic Preservation Division, March 27, 2001

State of New Mexico, Office of Cultural Affairs Historic Preservation Division, April 28, 2001

State of New Mexico, Office of Cultural Affairs Historic Preservation Division, May 1, 2001

State of New Mexico, Office of Cultural Affairs Historic Preservation Division, May 23, 2001

Department of the Air Force, October 25, 2000

Department of the Air Force, February 27, 2001

Department of the Air Force, March 20, 2001

City of Albuquerque, Planning and Development, April 9, 2001

Diamond Rash Gordon & Jackson, P.C. for Ysleta Del Sur Pueblo, April 26, 2001

United States Fish and Wildlife Service, April 27, 2001

State of New Mexico Department of Game and Fish, May 3, 2001



GARY E. JOHNSON  
Governor

STATE OF NEW MEXICO  
**OFFICE OF CULTURAL AFFAIRS  
HISTORIC PRESERVATION DIVISION**

LA VILLA RIVERA BUILDING  
228 EAST PALACE AVENUE  
SANTA FE, NEW MEXICO 87501  
(505) 827-6320

13 November 2000

Cynthia L. Gooch  
Chief, Quality Branch  
Environmental Management Division  
377 ABQ/EMQ  
2050 Wyoming Blvd. SE  
Kirtland AFB NM 87117-5270

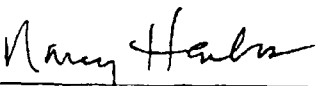
RE: Proposed Modifications and Repairs to Air National Guard Buildings, Kirtland AFB  
HPD Log #60756 and #60878

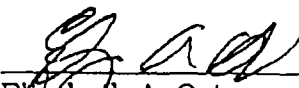
Dear Ms. Gooch,

Thank you for your 25 October 2000 letter regarding the repair and modification of Buildings 1051, 1055, 1058, 1059, and 1079 at Kirtland Air Force Base in Albuquerque, New Mexico, and for the excellent report by Van Citters regarding their National Register eligibility. We are also in receipt of your letter of 6 November 2000 describing Building 1056, which was omitted from the Van Citters report. We concur that these six buildings do not appear to be eligible for listing on the National Register of Historic Places (NRHP), and that the proposed undertaking should have no effect upon any registered or eligible properties. We also concur that Building 1043—not part of this undertaking—is eligible for inclusion on the NRHP, and we understand that there are no immediate plans to modify it.

Since the exact nature of your undertaking was not spelled out, we remind you that if cultural resources are discovered during any other ground disturbing activities, work should cease in the immediate area, the materials should be protected in place and this office should be notified at once at (505) 827-6320.

Sincerely,

  
\_\_\_\_\_  
Nancy Hanks, Ph.D.  
Architectural Historian

  
\_\_\_\_\_  
Elizabeth A. Oster  
Staff Archaeologist

## NOTICE

**- ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED SHORT-  
TERM CONSTRUCTION PROGRAM  
NEW MEXICO AIR NATIONAL GUARD  
150<sup>TH</sup> FIGHTER WING  
KIRTLAND AIR FORCE BASE, NEW MEXICO**

An environmental assessment (EA) is being prepared to evaluate the potential impacts on environmental and human resources that would result from eight separate, but related actions proposed by the 150 Fighter Wing at Kirtland Air Force Base (KAFB) near Albuquerque, New Mexico. These eight actions consist of the following:

- Construct a new composite support facility on ballfield 1 between air guard drive and falcon drive in the eastern portion of the NMANG (approximately 15,800 square feet)
- Build an addition on the south side of the Composite Medical Training, building 1079 the Composite Medical Training (approximately 1,972 square feet)
- Build an addition on the west and north of the Vehicle Maintenance Facility, building 1058 (approximately 2, 836 square feet)
- Demolish the communications building, 1045.
- Demolish the supply building, 1051.
- Demolish the finance building, 1053.
- Demolish the security forces building, 1059.
- Extend C Street between Falcon Drive and Randolph Drive.

Copies of the draft environmental assessment and the proposed Finding of No Significant Impact (FONSI) are available now at the following locations:

KAFB Library  
Bldg 20204  
Kirtland AFB NM

Albuquerque TVI  
4700 Morris NE  
Albuquerque NM 87102

The public comment period ends January 20, 2002 – all comments must be received by that date. Individuals wishing further information, or to contribute comments, should contact Ms Marsha Carra, National Environmental Policy Act program manager, (505) 846-4377.

POC for Albuquerque Journal newspaper:

BETH FAITH  
ABQ Publishing Company  
to put ads in the paper for a 2X4 combo

Work # 505-823-3312

Fax # 505-823-3369

---

The copy of the news ad I sent you can change as needed. Probably needs to be shorter, and put who you want for POC and of course the correct date, call if you have questions!

Marsha Carra  
377 SPTG/CEVQ  
2050 Wyoming Blvd SE  
KAFB NM 87117-5270

505-846-4377



GARY E. JOHNSON  
Governor

STATE OF NEW MEXICO  
**OFFICE OF CULTURAL AFFAIRS**  
**HISTORIC PRESERVATION DIVISION**

LA VILLA RIVERA BUILDING  
228 EAST PALACE AVENUE  
SANTA FE, NEW MEXICO 87501  
(505) 827-6320

27 March 2001

Cynthia L. Gooch  
Chief, Quality Branch  
Environmental Management Division  
377 ABQ/EMQ  
2050 Wyoming Blvd. SE  
Kirtland AFB NM 87117-5270

RE: Proposed demolition of Buildings 1045 and 1053  
HPD Log #61734

Dear Ms. Gooch,

Thank you for your 27 February 2001 letter regarding the proposed demolition of Buildings 1045 and 1053 at Kirtland Air Force Base in Albuquerque, New Mexico. We concur that neither building is eligible for the National Register of Historic Places and that their demolition will have no adverse effect on any historic property. We appreciate the opportunity to comment on this undertaking.

Sincerely,

A handwritten signature in cursive script, reading "Nancy Hanks", written over a horizontal line.

Nancy Hanks, Ph.D.  
Architectural Historian



GARY E. JOHNSON  
Governor

STATE OF NEW MEXICO  
**OFFICE OF CULTURAL AFFAIRS**  
**HISTORIC PRESERVATION DIVISION**

LA VILLA RIVERA BUILDING  
228 EAST PALACE AVENUE  
SANTA FE, NEW MEXICO 87501  
(505) 827-6320

Cynthia L. Gooch  
Chief, Planning and Quality Branch  
Environmental Management Division  
Department of the Air Force  
377 ABW/EM  
2050 Wyoming Blvd., SE  
Kirtland AFB, NM 87117-5270

28 April 2001

RE: Additional Facilities Construction for the New Mexico Air National Guard 150<sup>th</sup>  
Fighter Wing, Kirtland AFB, New Mexico

Dear Ms. Gooch:

I have reviewed the documentation that you submitted to this office for the subject undertaking, which includes a draft Environmental Assessment (EA) and three accompanying maps. In your cover letter, you note that a cultural resources survey has been performed in the area of potential effect for the undertaking, with negative results. You did not, however, provide a copy of the survey for review by this office.

Your letter requests concurrence from this office for the undertaking, presumably with a determination of "no adverse effect" since building demolitions are involved, as detailed in the draft EA. In the absence of the cultural resources documentation, this office cannot make a determination of effect. Please provide a copy of the archaeological inventory, and descriptions of the buildings that are slated for demolition (if they are not described in the survey report). I am concerned that some of the buildings to be demolished may be eligible for the National Register of Historic Places, but not enough information is provided in your submittal to evaluate that. On page 4 of the EA, for example, under Section 2.1.3, Building 1045 is described as "almost 50 years old." Has this building been evaluated for historic relevance to the Cold War context at Kirtland? Has it been documented? If the building must be demolished to make way for new activities and it has National Register potential, it may need to be documented at the HABS/HAER level before it is demolished.

I realize that time is of the essence. Please provide supporting documentation so that we can assist you in reaching a determination of effect and in recommending mitigation of adverse effects, if any.

Sincerely,

A handwritten signature in black ink, appearing to be 'Elizabeth Oster', written in a cursive style.

Elizabeth Oster  
Staff Archaeologist  
Log: 61872



GARY E. JOHNSON  
Governor

STATE OF NEW MEXICO  
**OFFICE OF CULTURAL AFFAIRS**  
**HISTORIC PRESERVATION DIVISION**

LA VILLA RIVERA BUILDING  
228 EAST PALACE AVENUE  
SANTA FE, NEW MEXICO 87501  
(505) 827-6320

Morgan Griffin  
500 12<sup>th</sup> Street, Suite 200  
Oakland, CA 94607

1 May 2001

RE: Additional Facilities Construction for the New Mexico Air National Guard 150<sup>th</sup>  
Fighter Wing, Kirtland AFB, New Mexico

Dear Mr. Morgan:


I have reviewed the Environmental Assessment submitted by Harry A. Knudsen, Jr. of the Department of the Air Force and received in this office 3 April 2001 for the subject undertaking. You were identified as the point of contact, so I am returning comments to you.

I recently reviewed compliance documentation in the form of a draft EA submitted by Kirtland Air Force Base for what appears to be the same undertaking. My first question to you is, who is consulting with the office—the Air National Guard, Kirtland AFB, or the New Mexico Air National Guard (NMANG)?

In order to evaluate the potential effects of the undertaking upon properties eligible to, or listed on, the National Register of Historic Places as per the requirements of Section 106 of the National Historic Preservation Act, we will need more complete information about the undertaking. Specifically, what is the status of cultural properties inventory in the area of potential effect? The letter that accompanied the Kirtland request for review and concurrence stated that a cultural resources survey has been performed in the area of potential effect for the undertaking, with negative results. A copy of that survey must be provided to this office. In addition, more specific information about the proposed building demolitions should be submitted. I am concerned that some of the buildings to be demolished may be eligible for the National Register of Historic Places, but not enough information is provided in your submittal to evaluate that. On page 6 of the EA, for example, under Section 2.1.3, Building 1045 is described as "almost 50 years old." Has this building been evaluated for historic relevance to the Cold War context at Kirtland? Has it been documented? If the building must be demolished to make way for new activities and it has National Register potential, it may need to be documented at the HABS/HAER level before it is demolished.

In the absence of the cultural resources documentation, this office cannot make a determination of effect. Please provide a copy of the archaeological inventory, and descriptions of the buildings that are slated for demolition (if they are not described in the survey report). Also, please specify who is the lead for consultation, either NMANG, the Department of the Air Force, Kirtland AFB. I am enclosing a copy of the letter I sent to Kirtland AFB regarding this undertaking to facilitate your communication with them.

Sincerely,

A handwritten signature in black ink, appearing to read 'E. Oster', with a stylized flourish at the end.

Elizabeth Oster

Staff Archaeologist

Log: 61929 (also see Log 61872)



GARY E. JOHNSON  
Governor

STATE OF NEW MEXICO  
**OFFICE OF CULTURAL AFFAIRS**  
**HISTORIC PRESERVATION DIVISION**

LA VILLA RIVERA BUILDING  
228 EAST PALACE AVENUE  
SANTA FE, NEW MEXICO 87501  
(505) 827-6320

23 May 2001

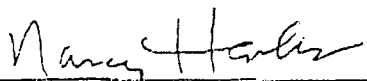
Cynthia L. Gooch  
Chief, Quality Branch  
Environmental Management Division  
377 ABQ/EMQ  
2050 Wyoming Blvd. SE  
Kirtland AFB NM 87117-5270


RE: Proposed Construction on Ballfield 1 and Demolition of Buildings 1045, 1051, 1053, and 1059  
HPD Log #62182

Dear Ms. Gooch,

Thank you for your 9 May 2001 letter regarding proposed construction on Ballfield 1 and demolition of Buildings 1045, 1051, 1053, and 1059 at Kirtland Air Force Base in Albuquerque, New Mexico. The results in the report you provided with your letter, *Class III Cultural Resources Inventory, Proposed Short Term Construction Program, New Mexico Air National Guard, 150<sup>th</sup> Fighter Wing* by Allan Schilz, indicate that no cultural resources were found during the archaeological inventory. All four buildings have previously been found ineligible by this office. Therefore it appears that the proposed undertaking—construction of a 15,000 sq. ft. building on Ballfield 1 and demolition of Buildings 1045, 1051, 1053, and 1059, will have no effect on any historic properties. We appreciate the opportunity to comment on the undertaking.

Sincerely,

  
Nancy Hanks, Ph.D.  
Architectural Historian

  
Elizabeth Oster  
Staff Archaeologist



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 377TH AIR BASE WING (AFMC)

CERTIFIED MAIL 7099 3220 0002 5455 5765  
RETURN RECEIPT REQUESTED

October 25, 2000

377 ABW/EMQ  
2050 Wyoming Blvd. SE  
Kirtland AFB NM 87117-5270

Mr. Elmo Baca  
State Historic Preservation Officer  
Office of Cultural Affairs  
Historic Preservation Division  
La Villa Rivera Building  
228 East Palace Avenue  
Santa Fe, New Mexico 87501

Dear Mr. Baca:

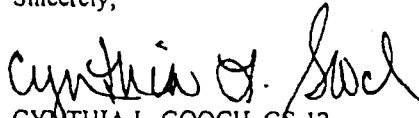
Kirtland Air Force Base (AFB) proposes to modify or repair five buildings as part of their program to upgrade their facilities. Kirtland AFB commissioned an evaluation of these buildings to determine their significance and eligibility for inclusion in the National Register of Historic Places. The enclosed report, *National Register of Historic Places Eligibility Evaluation of Air National Guard Buildings* (Van Citters September 2000c), is attached for your review.

Based on this report, we conclude that, while four of the buildings were associated with the Cold War (1945-1989), they have no thematic association with the Cold War mission. Building 1055 was constructed as the Air National Guard Headquarters, but was completely remodeled in the early 1980s and does not retain architectural integrity. Therefore, we request your concurrence with our recommendation that these buildings (1051, 1055, 1058, 1059, and 1079) are not eligible for inclusion in the National Register of Historic Places (NRHP) and that no historic properties will be affected by the proposed undertaking, per 36 CFR 800.4(c) (1) and 36 CFR 800.4(d) (1).

Building 1043 is recommended as eligible for inclusion in the NRHP under Criterion Consideration G for its association with the Cold War mission. Building 1043 served as an F-80, F-100, and F-100C hangar. Therefore, we request your concurrence with our determination that building 1043 is eligible per 36 CFR 800.4 (c) (2). There are, however, no immediate plans to modify building 1043. We have provided the New Mexico Air National Guard with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* so that they can take these into consideration in their planning.

If you have any questions or require further information, please do not hesitate to contact Teresa Hurt at (505) 846-8840.

Sincerely,

  
CYNTHIA L. GOOCH, GS-12  
Chief, Environmental Quality  
Environmental Management Division

Attachments

1. *National Register of Historic Places Eligibility Evaluation of Air National Guard Buildings*

FEB. -27' 01 (TUE) 15:29 377 ABW/EM

TEL: 5058460403

P. 002



DEPARTMENT OF THE AIR FORCE  
377th Civil Engineer Squadron (AFMC)

CERTIFIED MAIL 70993220000254556243  
RETURN RECEIPT REQUESTED

27 February 2001

377 ABW/EMQ  
2050 Wyoming Blvd., SE  
Kirtland AFB NM 87117-5270

Mr. Elmo Baca  
State Historic Preservation Officer  
Office of Cultural Affairs  
Historic Preservation Division  
La Villa Rivera Building  
228 East Palace Avenue  
Santa Fe, New Mexico 87501

Dear Mr. Baca:

Kirtland Air Force Base proposes to remove unsafe, high maintenance structures from the base and make land available for future construction projects. The buildings proposed for demolition are in deteriorating condition, detract from overall base appearance, and are no longer feasible to maintain and repair. They have been modified and lack architectural integrity. (see Historic Building Inventory Form and Real Property Records).

Building #	Building Name	Year of Construction	Material	Features	Modifications
1045	Communications Building	1957	Sheet metal, reinf. Concrete	1 story, pitched roof	Moderate
1053	Finance Building	1955	Metal, reinf. Concrete	1 story, pitched roof	Moderate

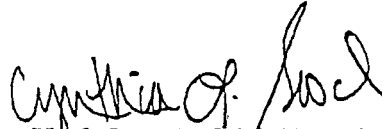
FEB. -27' 01 (TUE) 15:29 377 ABW/EM

TEL: 5058460403

P. 003

We appreciate your review of the proposed demolitions and will assume your concurrence that there is no effect to historic properties if we receive no reply within 30 days. If you have any questions or require further information, please do not hesitate to contact Valerie Butler at (505) 846-8840.

Sincerely,



CYNTHIA L. GOOCH, GS-12  
Chief, Environmental Quality  
Environmental Management Division

Cc: 377ABW/CC

Attachments:

1. Historic Building Inventory Form, 1045, 1053
2. Real Property Records, 1045, 1053



DEPARTMENT OF THE AIR FORCE  
377th Civil Engineer Squadron (AFMC)

CERTIFIED MAIL 70993220000254556250  
RETURN RECEIPT REQUESTED

377 ABW/EM  
2050 Wyoming Blvd., SE  
Kirtland AFB NM 87117-5270

20 March, 2001

Mr. Elmo Baca  
State Historic Preservation Officer  
Office of Cultural Affairs  
Historic Preservation Division  
La Villa Rivera Building  
228 East Palace Avenue  
Santa Fe, New Mexico 87501

Dear Mr. Baca:

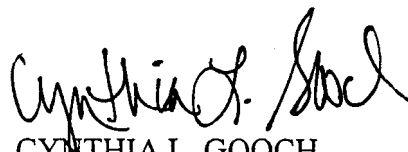
The New Mexico Air National Guard (NMANG) 150<sup>th</sup> Fighter Wing, Kirtland Air Force Base (Kirtland AFB), Bernalillo county, New Mexico, requires additional facilities to accommodate their growth. The NMANG proposes to construct a 15,800 SF building on Ballfield 1.

An archaeological inventory of 104 acres was undertaken between March 13 and March 16, 2001 by qualified archaeologists. The results of the pedestrian survey revealed no archaeological resources. This area has been heavily disturbed.

This area is part of an ongoing archaeological inventory for the base. It will be discussed in the Base archaeological inventory report (due at the end of the year) to satisfy Section 110 of the NHPA. However, due to the priority of this project we need to include the results and your comments for the project to proceed. We appreciate your review of the attached maps and draft Description of Proposed Action and Alternatives (DOPAA). We will assume your concurrence that there is no effect to cultural properties, if you have no reply within 30 days.

If you have any questions or require further information, please do not hesitate to contact Valerie Butler at 846-8840.

Sincerely,

A handwritten signature in black ink, appearing to read 'Cynthia L. Gooch', written in a cursive style.

CYNTHIA L. GOOCH  
Chief, Planning and Quality Branch  
Environmental Management Division

Attachments:

1. Two maps of general location of existing land use
2. Existing Topography
3. Draft DOPAA



April 9, 2001

Mr. Morgan Griffin  
URS Corporation  
500 12<sup>th</sup> Street, Suite 200  
Oakland, CA 94607

Re: Environmental Assessment, Description of Proposed Action and  
Alternatives for Short-Term Construction Projects at the 150<sup>th</sup> Fighter  
Wing, New Mexico Air National Guard, Kirtland Air Force Base, New  
Mexico

Mr. Griffin,

The City of Albuquerque, Aviation Department has reviewed the referenced document and we have no adverse comment regarding the projects.

We do request that the Aviation Department be contacted when construction begins, as there are several air spacing and security issues that will need to be coordinated.

Thank you for including us in the review process.

Respectfully,

Jim Hinde, Planning and Development

Airguard040901.1



**DIAMOND RASH GORDON & JACKSON, P.C.**

**ATTORNEYS AT LAW**

**300 EAST MAIN STREET**

**SEVENTH FLOOR**

**EL PASO, TEXAS 79901-1379**

**TOM DIAMOND  
NORMAN J. GORDON\*  
RONALD L. JACKSON  
JOHN R. BATOON  
ROBERT J. TRUHILL  
RUSSELL D. LEACHMAN\*\*  
JOSETTE FLORES**

**ALAN V. RASH  
OF COUNSEL**

**\*BOARD CERTIFIED - CIVIL TRIAL LAW  
TEXAS BOARD OF LEGAL SPECIALIZATION**

**\*\*BOARD CERTIFIED - CRIMINAL LAW  
TEXAS BOARD OF LEGAL SPECIALIZATION**

**TELEPHONE  
(915) 533-2277**

**FAX (915) 545-4623**

April 26, 2001

**VIA FEDEX OVERNIGHT  
AIRBILL NO. 3.8272 2970 1741 &  
VIA FAX NO. 510-874-3268**

URS Corporation  
500 12<sup>th</sup> Street, Suite 200  
Oakland, California 94607

Attn: Mr. Morgan Griffin

**Re: Proposed Short-Term Construction - 150<sup>th</sup> Fighter Wing - Kirtland Air Force Base  
Request for Consultation - Ysleta Del Sur Pueblo**

Dear Mr. Griffin:

Please be advised that this firm represents the Ysleta Del Sur Pueblo, a federally recognized Native American Indian Tribe of El Paso, Texas.

This will acknowledge receipt of the February 28, 2001 correspondence from Harry A. Knudsen, Jr., Chief, Environmental Planning Branch, Environmental Division, Department of the Air Force, Air National Guard in which the Air National Guard (ANG) has initiated a short-term construction program for the 150<sup>th</sup> Fighter Wing (150 FW), located at Kirtland Air Force Base, New Mexico and that it is initiating consultation to determine whether the Ysleta Del Sur Pueblo has any traditional cultural properties that may be affected by future projects and activities carried out on lands administered by Kirtland AFB.

Please be advised that the Pueblo has a cultural affiliation to the Manzano Area, which is located on the lands administered by Kirtland Air Force Base and which affiliation predates the Pueblo Revolt in 1680. If, in the course of construction, cultural resources are discovered, including archaeological assemblages and other cultural features, please contact the following individuals:

URS Corporation  
Attn: Mr. Morgan Griffin  
April 26, 2001 Letter  
Page 2

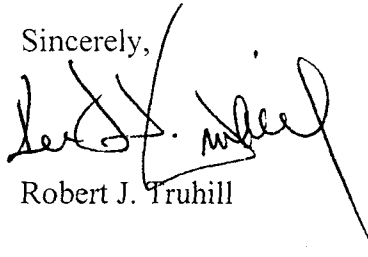
Ricardo Quezada, War Captain  
Ysleta Del Sur Pueblo  
P.O. Box 17579  
El Paso, Texas 79917

Adolph Greenberg, Ph.D.  
Tribal Ethnographer  
13 Tamara Ct.  
Oxford, OH 45056

Robert J. Truhill, Esq.  
Diamond Rash Gordon & Jackson, P.C.  
300 E. Main Dr., 7<sup>th</sup> Floor  
El Paso, Texas 79902

Enclosed herewith, please find a copy of the Pueblo's Consultation Policy.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert J. Truhill", with a long, sweeping underline that extends to the right.

Robert J. Truhill

RJT/mrc  
Enclosure

cc: Governor Albert Alvidrez  
Lt. Governor Filbert Candelaria  
Ricardo Quezada, War Captain  
Dr. Adolph Greenberg, Ph.D.

# **CONSULTATION POLICY**

## **Ysleta Del Sur Pueblo**

**Preface:** This document formalizes the existing procedures for consultation (government to government, or otherwise) between the Pueblo of Ysleta del Sur and the United States federal government including any and all agencies/offices/departments/bureaus therein. This policy statement reflects completely the procedures followed and adhered to by this federally recognized Indian tribe during previous consultations and therefore the procedures to be followed and adhered to in future consultations.

**Consultation:** Consultation is the formal, bilateral process of negotiation, cooperation and policy-level decision-making between two sovereign entities: the Tigua Tribe of Ysleta del Sur Pueblo and the United States Government or its designate. Consultation, therefore, is a process that leads ultimately to a decision. Consultation is not just a process or a mean to an end. As such, it should not be viewed by others and is not viewed by the Pueblo of Ysleta del Sur as a mere formality during the stages of any project. Consultation is not notifying our Tribal Council that an action will occur, requesting written comments on the action or alternative actions, and then proceeding with the action or one of the a priori alternatives. Such authoritarian, top-down procedures do not constitute consultation because a decision is not affected bilaterally between two sovereign entities.

### **Consultation Objectives:**

- 1) Assures that the Tribal Council and its designates understand fully the technical and legal issues, implications, and probable impacts involved in and resulting from an action or alternatives so that an informed policy-level decision can be made.
- 2) Improved policy-level decision-making of both the Tribal Council and the federal government.
- 3) Bilateral decision-making between and among sovereigns leading to co-managerial structure.
- 4) Protection of Ysleta del Sur Pueblo's cultural and natural resources, cultural tradition, economy and lifestyle.

- 5) Compliance with and respect for Tribal laws and Tribal integrity.
- 6) Full compliance with federal Indian law, federal statutes, and federal policy.
- 7) Develop and achieve mutual decisions through working relationships.
- 8) Improve the integrity and efficacy of decisions over time.
- 9) Recognition that the Tribe is both a stakeholder and regulator in projects that have potential or real impacts on tribal resources, culture, and lifestyle.

#### **Consultation Procedures:**

The consultation venue works or proceeds in much the same way that federal agencies typically operate. This means a series of technical meetings followed by a series of policy meetings. The technical meetings provide opportunities for consultation by and with the appropriate technical staff of both entities. The policy meetings provide opportunities for the resolution of those issues left unresolved at the technical level and for the resolution of those issues that are clearly policy grounded. The outcome of this procedure is the development of a common understanding of the technical and legal issues affecting or are affected by a decision. It is this common understanding in a democratized context that provides the basis for decision-making. The Tigua Tribal Council will address more cooperatively those issues with which they had been thoroughly consulted with prior to a decision.

Consultation requires that federal agencies and the Tribal Council fully understand their roles in the context of the federally-mandated government-to-government relationship and the responsibilities which devolve upon the federal government under the Trust doctrine. In this environment, both the Tribal Council and the federal agency will benefit from the perspectives each brings to the table. This means personal communication, which is one of the foundations for meaningful consultation. To make this process work, the following series of activities should guide consultation:

1. Federal agency contacts the Governor of the Pueblo of Ysleta del Sur to inform him of an impending project or to conduct an activity which may or may not impact a tribal resource or tribal concern.
2. The Governor, after meeting with the Tribal Council and/or it designates, responds back to the federal agency that this issue is or is not important. If it is important, the Governor will communicate to the federal agency that the Tribe will initiate consultation.
3. Consultation is initiated through technical staff meetings which will inform the respective staffs in a comprehensive way so that each can brief and/or make recommendations to their

respective policy level entities in an informed way.

4. After the technical staff has briefed the Tribal Council, the Council will define the consultation protocol it wishes to follow, which will typically entail additional technical and policy level meetings, research activities, and a final policy level meeting to make a decision. These are then transmitted in written form to the federal agency. The outcome here should be a memorandum of agreement to establish a working relationship between entities.

5. The consultation protocol is followed.

6. A decision couched in bilateral cooperation between the federal agency and the Tribal Council is formulated. This decision will be fully compliant with federal and tribal laws and policies. The decision will protect the resources to which the Tigua Tribe of Ysleta del Sur Pueblo has specific aboriginal and Spanish land grant reserved rights. The decision will protect the cultural tradition and the religious practices of the Tribe.

This consultation policy will insure that Tribal Council and the federal government have not only communicated but have developed mutual understanding and trust. Within this context, policy level decision-making can and must work.



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
New Mexico Ecological Services Field Office  
2105 Osuna NE  
Albuquerque, New Mexico 87113  
Phone: (505) 346-2525 Fax: (505) 346-2542

April 27, 2001

Cons. # 2-22-01-I-352

Mr. Morgan Griffin  
URS Corporation  
500 12<sup>th</sup> Street, Suite 200  
Oakland, CA 94607

Dear Mr. Griffin:

This is in response to your February 28, 2001, letter requesting information on threatened or endangered species or important wildlife habitats that could be affected by the proposed short-term construction program involving building construction and demolition on the Air National Guard Base at Kirtland Air Force Base in Bernalillo County, New Mexico.

We have enclosed a current list of federally-endangered, threatened, candidate species, and species of concern that may be found in the project area. Additional information about these species is available on the internet at, <<http://nrmnhp.unm.edu/bisonm/bisonm.cfm>>, <<http://nmrareplants.unm.edu>>, and <<http://ifw2es.fws.gov/endangeredspecies>>. Under the Endangered Species Act, as amended (Act), it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" any threatened, endangered, or proposed species, or critical habitat, and if necessary, to consult with us further. If your action area has suitable habitat for any of these species, we recommend that species-specific surveys be done during the appropriate flowering or breeding season to evaluate any possible project-related impacts.

Candidates and species of concern have no legal protection under the Act and are included in this document for planning purposes only. We are required to monitor the status of these species. If significant declines are detected, these species could potentially be listed as endangered or threatened. Therefore, actions that may contribute to their decline should be avoided. We recommend that candidates and species of concern be included in your surveys.

Under Executive Order 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands, and preserve and enhance their natural and beneficial values. We recommend you contact the U.S. Army Corps of Engineers for permitting requirements under Section 404 of the Clean Water Act if your proposed action could impact wetlands. These habitats should be conserved through avoidance or mitigation should occur to ensure no net loss of wetlands functions and values.

Mr. Morgan Griffin

2

The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds, nests, and eggs, except as permitted. To minimize the likelihood of adverse impacts to all birds protected under the MBTA, we recommend construction activities occur outside the general migratory bird nesting season of March through August, or that areas proposed for construction during the nesting season be surveyed, and if necessary, avoided until nesting is complete.

Please keep in mind that the scope of federally-listed species compliance also includes any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect and cumulative effects.

If you have any questions regarding this information, please contact Maureen Murphy at the letterhead address or at (505) 346-2525, ext. 115.

Sincerely,

A handwritten signature in cursive script that reads "Joy E. Nicholopoulos".

Joy E. Nicholopoulos  
Field Supervisor

Enclosure

cc: (w/o enc)

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry  
Division, Santa Fe, New Mexico

Threatened, Endangered, Candidate Species, and  
Species of Concern for Bernalillo County, New Mexico  
April 27, 2001

Big free-tailed bat, Nyctinomops macrotis (=Tadarida m., T. molossa), SC  
Black-footed ferret, Mustela nigripes, E\*\*  
Fringed myotis, Myotis thysanodes, SC  
New Mexican meadow jumping mouse, Zapus hudsonius luteus, SC  
Occult little brown bat, Myotis lucifugus occultus, SC  
Townsend's big-eared bat, Corynorhinus townsendii, SC  
Pecos River muskrat, Ondatra zibethicus ripensis, SC  
Spotted bat, Euderma maculatum, SC  
American peregrine falcon, Falco peregrinus anatum, SC  
Arctic peregrine falcon, Falco peregrinus tundrius, SC  
Baird's sparrow, Ammodramus bairdii, SC  
Bald eagle, Haliaeetus leucocephalus, T  
Black tern, Chlidonias niger, SC  
Ferruginous hawk, Buteo regalis, SC  
Loggerhead shrike, Lanius ludovicianus, SC  
Mexican spotted owl, Strix occidentalis lucida, T w/PCH  
Mountain plover, Charadrius montanus, PT  
Northern goshawk, Accipiter gentilis, SC  
Southwestern willow flycatcher, Empidonax traillii extimus, E  
Yellow-billed cuckoo, Coccyzus americanus, SC  
Western burrowing owl, Athene cunicularia hypugaea, SC  
White-faced ibis, Plegadis chihi, SC  
Whooping crane, Grus americana, XN  
Flathead chub, Platygobio (=Hybopsis) gracilis, SC  
Rio Grande silvery minnow, Hybognathus amarus, E w/CH  
Texas horned lizard, Phrynosoma cornutum, SC  
Millipede, Toltecus chihuensis, SC

## Index

E	=	Endangered (in danger of extinction throughout all or a significant portion of its range).
PE	=	Proposed Endangered
PE w/CH	=	Proposed Endangered with critical habitat
T	=	Threatened (likely to become endangered within the foreseeable future throughout all or a significant portion of its range).
PT	=	Proposed Threatened
PT w/CH	=	Proposed Threatened with critical habitat
PCH	=	Proposed critical habitat
C	=	Candidate Species (taxa for which the Service has sufficient information to propose that they be added to list of endangered and threatened species, but the listing action has been precluded by other higher priority listing activities).
SC	=	Species of Concern (Taxa for which further biological research and field study are needed to resolve their conservation status <u>OR</u> are considered sensitive, rare, or declining on lists maintained by Natural Heritage Programs, State wildlife agencies, other Federal agencies, or professional/academic scientific societies). Species of Concern are included for planning purposes only.
S/A	=	Similarity of Appearance
*	=	Introduced population
†	=	May occur in this county from re-introductions in Colorado.
XN	=	Nonessential experimental
**	=	Survey should be conducted if project involves impacts to prairie dog towns or complexes of 200-acres or more for the Gunnison's prairie dog ( <u>Cynomys gunnisoni</u> ) and/or 80-acres or more for any subspecies of Black-tailed prairie dog ( <u>Cynomys ludovicianus</u> ). A complex consists of two or more neighboring prairie dog towns within 4.3 miles (7 kilometers) of each other.
***	=	Extirpated in this county

GOVERNOR

Gary E. Johnson



DIRECTOR AND SECRETARY  
TO THE COMMISSION

Larry G. Bell

STATE OF NEW MEXICO  
DEPARTMENT OF GAME & FISH

Villagra Building  
PO Box 25112  
Santa Fe, NM 87503

Visit our web site home page at <http://gmfish.state.nm.us>  
For basic information or to order free publications: 1-800-862-9310.

STATE GAME COMMISSION

Stephen E. Doerr, Chairman  
Portales, NM

Steven C. Emery  
Albuquerque, NM

George Ortega  
Santa Fe, NM

Steve Padilla  
Albuquerque, NM

Bud Hettinga  
Las Cruces, NM

J. Karen Stevens  
Farmington, NM

Ray Westall  
Loco Hills, NM

---

May 3, 2001

URS Corporation  
Mr. Morgan Griffin  
500 12<sup>th</sup> Street, Suite 200  
Oakland, CA 94607

Re: Short Term Construction Projects at the 150<sup>th</sup> Fighter Wing  
NMGF No. 7433

Dear Mr. Griffin;

In response to your letter regarding the above referenced project, the Department of Game and Fish (Department) does not anticipate significant impacts to wildlife or sensitive habitats. For your information, we have enclosed a list of sensitive, threatened and endangered species, which occur in Bernalillo County.

For more information on listed and other species of concern, contact the following sources:

1. <http://www.fw.vt.edu/fishex/states/nm.htm> for species accounts and to download New Mexico Species of Concern (wildlife species by county)
2. <http://www.nmnhp.unm.edu> for custom, site-specific searches on plants and wildlife
3. <http://www.nmnhp.unm.edu/bisonm/BISONM.CFM> for simple searches by listing category
4. New Mexico State Forestry Division (505-827-5830) for state-listed plants
5. U.S. Fish and Wildlife Service (505-346-2525) for federally listed wildlife species

Thank you for the opportunity to review and comment on your project. If you have any questions, please contact Mike Gustin at 505-841-8881 or [mgustin@state.nm.us](mailto:mgustin@state.nm.us)

Sincerely,

Tod W. Stevenson, Chief  
Conservation Services Division

TWS/MLG

cc: Joy Nicholopolous (New Mexico Ecological Services, USFWS)  
Luke Shelby (NW Area Operations Chief, NMGF)  
Robert Livingston (NW Area Assistant chief, NMGF)

# NEW MEXICAN WILDLIFE of CONCERN

## STATUS & DISTRIBUTION

STATE OF NEW MEXICO: THREATENED, ENDANGERED, SENSITIVE, ENDEMIC  
USFWS: THREATENED, ENDANGERED, CANDIDATE, PROPOSED, SPECIES OF CONCERN  
US BUREAU OF LAND MANAGEMENT: SENSITIVE  
US FOREST SERVICE: SENSITIVE  
EXTIRPATED FROM NEW MEXICO  
US "CITES" LISTED  
HARVESTABLE  
EXTINCT

State-wide lists: pages 3-15  
County lists: pages 16-68  
Definitions: pages 69-70

### TABLE KEY

FWS ESA	US FISH & WILDLIFE SERVICE; ENDANGERED SPECIES ACT
NM WCA	NEW MEXICO; WILDLIFE CONSERVATION ACT
FS R3	US FOREST SERVICE; REGION 3, NEW MEXICO & ARIZONA (old list, revision in progress)
BLM NM	UNDER CONSIDERATION FOR US BLM SENSITIVE, NEW MEXICO
NM Sen	NEW MEXICO; SENSITIVE (INFORMAL) and/or ENDEMIC TO NM
FWS SOC	US FISH & WILDLIFE SERVICE; SPECIES OF CONCERN (INFORMAL)
E	ENDANGERED
T	THREATENED
P	PROPOSED
C	CANDIDATE
CW	CANDIDATE with "Warranted But Precluded" determination
R	RESTRICTED
S	SENSITIVE or SPECIES OF CONCERN (SOC)
g	Cooperative Agreement (sometimes in lieu of listing)
n	ENDEMIC TO NEW MEXICO
h	Federal "Critical Habitat" designated
m	Recovery or Management Plan
( )	In progress or draft

## ADDITIONAL INFORMATION

**COMPLETE SPECIES ACCOUNTS:** Information pertaining to taxonomy, status, distribution, habitat, environmental association, food habits, management practices and references for all vertebrates and selected invertebrates in New Mexico is in a database, the Biota Information System Of New Mexico (BISON), maintained by the New Mexico Department of Game and Fish, Conservation Services Division.

Accounts on the Web at: <http://www.cmiweb.org/states/nm.htm>

Searches & account links: <http://nmnhp.unm.edu/bisonm/BISONM.CFM>

USFWS accounts:

<http://ifw2es.fws.gov/endangeredspecies/lists/ListSpecies.cfm>

or contact Jon Klingel  
Conservation Services Division  
New Mexico Department of Game & Fish  
P.O. Box 25112  
Santa Fe, New Mexico 87504

voice:505-827-9912 fax:505-827-9956  
e-mail: [jklingel@state.nm.us](mailto:jklingel@state.nm.us)

Or NM Department of Game and Fish, Endangered Species Program in Santa Fe at (505) 827-9904.

Information on federal status species is provided as a courtesy only. We suggest you contact the indicated federal agency for specifics regarding the status of these species. Offices: USFWS, Ecological Services Office, Albuquerque; US Forest Service Region 3 Office, Albuquerque; and US Bureau of Land Management State Office, Santa Fe.

# EXTINCT

(Native New Mexican Wildlife which no longer exists anywhere)

Rio Grande Bluntnose Shiner	Notropis simus simus	(USFS sensitive)
Phantom Shiner	Notropis orca	
New Mexico Sharp-tailed Grouse	Tympanuchus phasianellus hueyi	(NM endemic)
Hot Springs Cotton Rat	Sigmodon fulviventer goldmani	(NM endemic)
Merriam's Elk	Cervus elaphus merriami	
Florida Mountainsnail	Oreohelix florida	(NM endemic)

# APPARENTLY EXTIRPATED

(Native Wildlife apparently no longer occurring in New Mexico but existing elsewhere)

## FISH

Shovelnose Sturgeon	Scaphirhynchus platyrhynchus	(New Mexico endangered)
Spotted Gar	Lepisosteus oculatus	
Colorado River Cutthroat Trout	Oncorhynchus clarki pleuriticus	
American Eel	Anguilla rostrata	
Bonytail Chub	Gila elegans	(federal endangered)
Beautiful Shiner	Cyprinella formosa	(federal threatened, Coop. Agreement)
Palomas Pupfish	Cyprinodon sp.	(FWS SOC)
Freshwater Drum	Aplodinotus grunniens	

## AMPHIBIANS

Western Boreal Toad	Bufo boreas (Possibly extirpated; NM endangered; Fed. Candidate; Mgt. Plan)
Lowland Leopard Frog	Rana yavapaiensis (Possibly extirpated; NM endangered; FWS SOC)

## BIRDS

Sage Grouse	Centrocercus urophasianus	
Sharp-tailed Grouse	Tympanuchus phasianellus (the only subspecies which occurred in NM is extinct)	

## MAMMALS

Bison	Bison bison	
Gray Wolf	Canis lupus (C.I.baileyi reintroduced, other subsp extirpated; federal endangered)	
Grizzly Bear	Ursus arctos (federal threatened)	
Black-footed Ferret	Mustela nigripes (federal endangered with recovery plan)	
Mink	Mustela vison energumenos	
Southwestern River Otter	Lutra canadensis sonora (FWS SOC; possibly extirpated)	
Lynx	Lynx lynx (federal threatened; almost certainly occurred; no verified records)	
Wolverine	Gulo gulo (almost certainly occurred; no specimens or verified records)	

# NEW MEXICAN WILDLIFE OF CONCERN

## STATE-WIDE LIST

Common Name.....	SCIENTIFIC NAME.....	FWS ESA	NM WCA	FS R3	BLM NM	NM Sen	FWS SOC
<b>FISH</b>							
Rio Grande Cutthroat Trout	Oncorhynchus clarki virginalis	-	-	S	-	S M	-
Gila Trout	Oncorhynchus gilae	E M	T	S	-	-	-
Mexican Tetra	Astyanax mexicanus	-	T	S	-	-	-
Longfin Dace	Agosia chrysogaster	-	-	-	S	-	S
Gila Chub	Gila intermedia	-	E	S	S	-	S
Chihuahua Chub	Gila nigrescens	T mg	E	S	-	-	-
Rio Grande Chub	Gila pandora	-	-	-	-	S	-
Roundtail Chub	Gila robusta	-	E	S	S	-	S
Rio Grande Silvery Minnow	Hybognathus amarus	E g(hm)	E	S	-	-	-
Plains Minnow	Hybognathus placitus (Native Pop)	-	-	-	S	S	S
Canadian Speckled Chub	Macrhybopsis aestivalis tetranemus	-	T	-	S	-	S
Spinedace	Meda fulgida	T mg	T	S	-	-	-
Arkansas River Shiner	Notropis girardi (Native pop.)	T h	E	-	-	-	-
Rio Grande Shiner	Notropis jemezanus	-	-	-	S	S	S
Pecos Bluntnose Shiner	Notropis simus pecosensis	T hgm	T	-	-	-	-
Suckermouth Minnow	Phenacobius mirabilis	-	T	S	-	-	-
Southern Redbelly Dace	Phoxinus erythrogaster	-	E	S	-	-	-
Flathead Chub	Platygobio gracilis	-	-	-	S	-	S
Colorado Pikeminnow	Ptychocheilus lucius	E hmg	E	-	-	-	-
Loach Minnow	Rhinichthys cobitis	T(E) hm	T	S	-	-	-
Speckled Dace	Rhinichthys osculus (Gila pop.)	-	-	-	S	-	S
Desert Sucker	Catostomus clarki	-	-	-	S	S	S
Zuni Bluehead Sucker	Catostomus discobolus yarrowi	-	E	S	S	-	S
Sonora Sucker	Catostomus insignis	-	-	-	S	S	S
Rio Grande Sucker	Catostomus plebeius	-	-	S	-	-	-
Blue Sucker	Cypleptus elongatus	-	E	-	S	-	S
Gray Redhorse	Moxostoma congestum	-	T	S	-	-	-
Razorback Sucker	Xyrauchen texanus	E hg	-	S	-	S	-
Headwater Catfish	Ictalurus lupus	-	-	S	S	S	S
Chihuahua Catfish	Ictalurus sp	-	-	-	-	S	S
Pecos Pupfish	Cyprinodon pecosensis	g	T	-	-	-	-
White Sands Pupfish	Cyprinodon tularosa	g	T	-	-	n	S
Pecos Gambusia	Gambusia nobilis	E mg	E	-	-	-	-
Gila Topminnow	Poeciliopsis occidentalis occidentalis	E M	T	S	-	-	-
Greenthroat Darter	Etheostoma lepidum	-	T	-	-	-	-
Bigscale Logperch	Percina macrolepida (Native pop.)	-	T	-	-	-	-

# NEW MEXICAN WILDLIFE OF CONCERN

## STATE-WIDE LIST

Common Name..... SCIENTIFIC NAME..... FWS NH FS BLM NH FWS  
ESA WCA R3 NM Sen SOC

### AMPHIBIANS

Sacramento Mountain Salamander	<i>Aneides hardii</i>	-	T	s	s	n	s
Jemez Mountains Salamander	<i>Plethodon neomexicanus</i>	gm	T	s	s	n	s
Colorado River Toad	<i>Bufo alvarius</i>	-	T	s	-	-	-
Western Boreal Toad	<i>Bufo boreas boreas</i>	CW	E	s	-	-	-
Arizona Toad	<i>Bufo microscaphus microscaphus</i>	-	-	s	s	s	s
Great Plains Narrowmouth Toad	<i>Gastrophryne olivacea</i>	-	E	s	-	-	-
Chiricahua Leopard Frog	<i>Rana chiricahuensis</i>	P	-	s	-	s	-
Northern Leopard Frog	<i>Rana pipiens</i>	-	-	s	-	-	-
Lowland Leopard Frog	<i>Rana yavapaiensis</i>	-	E	s	s	-	s

### REPTILES

Western River Cooter	<i>Pseudemys gorzugi</i>	-	T	s	-	-	-
Big Bend Slider	<i>Trachemys gaigeae</i>	-	-	-	-	s	-
Bleached Earless Lizard	<i>Holbrookia maculata ruthveni</i>	-	-	-	-	s n	-
Texas Horned Lizard	<i>Phrynosoma cornutum</i>	-	-	s	s	-	s
Sand Dune Lizard	<i>Sceloporus arenicolus</i>	-	T	-	s	-	s
Northern Sagebrush Lizard	<i>Sceloporus graciosus graciosus</i>	-	-	-	-	-	s
Bunch Grass Lizard	<i>Sceloporus scalaris sievini</i>	-	T	s	-	-	-
White Sands Prairie Lizard	<i>Sceloporus undulatus cowlesi</i>	-	-	-	-	s n	-
Giant Spotted Whiptail	<i>Cnemidophorus burti</i>	-	T	s	s	-	s
Gray-checked Whiptail	<i>Cnemidophorus dixonii</i>	-	E	-	s	-	s
Little White Whiptail	<i>Cnemidophorus inornatus gypsi</i>	-	-	-	-	s n	-
Mountain Skink	<i>Eumeces tetragrammus callicephalus</i>	-	T	s	-	-	-
Reticulate Gila Monster	<i>Heloderma suspectum suspectum</i>	-	E	s	-	-	-
Gray-banded Kingsnake	<i>Lampropeltis alterna</i>	-	E	-	-	-	-
Desert Kingsnake	<i>Lampropeltis getula splendida</i>	-	-	s	-	-	-
California Kingsnake	<i>Lampropeltis getula californiae</i>	-	-	-	-	s	-
Blotched Water Snake	<i>Nerodia erythrogaster transversa</i>	-	E	s	-	-	-
Texas Longnose Snake	<i>Rhinocheilus lecontei</i>	-	-	s	-	-	-
Green Rat Snake	<i>Senticolis triaspis intermedia</i>	-	T	s	-	-	-
Yaqui Blackhead Snake	<i>Tantilla yaquia</i>	-	-	-	-	s	-
Mexican Garter Snake	<i>Thamnophis eques megalops</i>	-	E	s	s	-	s
Arid Land Ribbon Snake	<i>Thamnophis proximus diabolicus</i>	-	T	s	-	-	-
Narrowhead Garter Snake	<i>Thamnophis rufipunctatus rufipunctatus</i>	-	T	s	s	-	s
Mottled Rock Rattlesnake	<i>Crotalus lepidus lepidus</i>	-	T	s	-	-	-
NM Ridgenose Rattlesnake	<i>Crotalus willardi obscurus</i>	T hmg	E	s	-	-	-
Desert Massasauga	<i>Sistrurus catenatus edwardsii</i>	-	-	s	-	-	-

# NEW MEXICAN WILDLIFE OF CONCERN

## STATE-WIDE LIST

Common Name.....	SCIENTIFIC NAME.....	FWS ESA	NM WCA	FS R3	BLM NM	NM Sen	FWS SOC
<b>BIRDS</b>							
Clark's Grebe	<i>Aechmophorus clarkii</i>	-	-	S	-	-	-
Brown Pelican	<i>Pelecanus occidentalis carolinensis</i>	E	E	S	-	-	-
Neotropic Cormorant	<i>Phalacrocorax brasilianus</i>	-	T	S	-	-	-
American Bittern	<i>Botaurus lentiginosus</i>	-	-	S	-	-	-
Least Bittern	<i>Ixobrychus exilis exilis</i>	-	-	S	-	-	-
Great Egret	<i>Ardea alba egretta</i>	-	-	S	-	-	-
Snowy Egret	<i>Egretta thula brewsteri</i>	-	-	S	-	-	-
Green Heron	<i>Butorides virescens</i>	-	-	S	-	-	-
Black-crowned Night Heron	<i>Nycticorax nycticorax hoactli</i>	-	-	S	-	-	-
White-faced Ibis	<i>Plegadis chihi</i>	-	-	S	S	-	S
Osprey	<i>Pandion haliaetus carolinensis</i>	-	-	S	-	-	-
White-tailed Kite	<i>Elanus caeruleus majusculus</i>	-	-	S	-	-	-
Mississippi Kite	<i>Ictinia mississippiensis</i>	-	-	S	-	-	-
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T mg	T	S	-	-	-
Northern Goshawk	<i>Accipiter gentilis</i>	-	-	S	S	S	S
Northern Gray Hawk	<i>Asturina nitida maximus</i>	-	-	S	S	-	S
Common Black-hawk	<i>Buteogallus anthracinus anthracinus</i>	-	T	S	-	-	-
Swainson's Hawk	<i>Buteo swainsoni</i>	-	-	S	-	-	-
Zone-tailed Hawk	<i>Buteo albonotatus</i>	-	-	S	-	-	-
Ferruginous Hawk	<i>Buteo regalis</i>	-	-	S	S	-	S
Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	E mg	E	S	-	-	-
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	-	T	S	-	-	-
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	-	T	S	-	-	-
White-tailed Ptarmigan	<i>Lagopus leucurus altipetens</i>	-	E	S	-	-	-
Lesser Prairie-chicken	<i>Tympanuchus pallidicinctus</i>	CW	-	-	S	S	-
Gould's Wild Turkey	<i>Meleagris gallopavo mexicana</i>	-	T	S	-	-	-
Sora	<i>Porzana carolina</i>	-	-	S	-	-	-
Whooping Crane	<i>Grus americana</i>	E mg	E	S	-	-	-
Western Snowy Plover	<i>Charadrius alexandrinus nivosus</i>	-	-	S	-	-	-
Piping Plover	<i>Charadrius melodus circumcinctus</i>	T g	E	-	-	-	-
Mountain Plover	<i>Charadrius montanus</i>	P	-	S	-	S	-
Black-necked Stilt	<i>Himantopus mexicanus</i>	-	-	S	-	-	-
Upland Sandpiper	<i>Bartramia longicauda</i>	-	-	S	-	-	-
Long-billed Curlew	<i>Numenius americanus americanus</i>	-	-	S	-	-	-
Interior Least Tern	<i>Sterna antillarum athalassos</i>	E mg	E	S	-	-	-
Black Tern	<i>Chlidonias niger surinamensis</i>	-	-	-	S	-	S
Common Ground-dove	<i>Columbina passerina pallescens</i>	-	E	S	-	-	-
Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	-	-	S	-	-	-
Flammulated Owl	<i>Otus flammeolus</i>	-	-	S	-	-	-
Whiskered Screech Owl	<i>Otus trichopsis asperus</i>	-	T	-	-	-	-
Elf Owl	<i>Micrathene whitneyi whitneyi</i>	-	-	S	-	-	-
Burrowing Owl	<i>Athene cunicularia hypugaea</i>	-	-	-	S	-	S
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	T (h)mg	-	S	-	S	-
Boreal Owl	<i>Aegolius funereus</i>	-	T	S	-	-	-
Buff-collared Nightjar	<i>Caprimulgus ridgwayi ridgwayi</i>	-	E	S	-	-	-
Black Swift	<i>Cypseloides niger borealis</i>	-	-	-	-	S	-

# NEW MEXICAN WILDLIFE OF CONCERN

## STATE-WIDE LIST

Common Name.....	SCIENTIFIC NAME.....	FWS ESA	NM WCA	FS R3	BLM NM	NM Sen	FWS SOC
<b>BIRDS CONTINUED</b>							
Broad-billed Hummingbird	Cyananthus latirostris magicus	-	T	s	-	-	-
White-eared Hummingbird	Hylocharis leucotis borealis	-	T	s	-	-	-
Violet-crowned Hummingbird	Amazilia violiceps ellioti	-	T	s	-	-	-
Blue-throated Hummingbird	Lampornis clemenciae bessophilus	-	-	s	-	-	-
Lucifer Hummingbird	Calothorax lucifer	-	T	s	-	-	-
Costa's Hummingbird	Calypte costae	-	T	s	-	-	-
Elegant Trogon	Trogon elegans canescens	-	E	s	-	-	-
Belted Kingfisher	Ceryle alcyon	-	-	s	-	-	-
Gila Woodpecker	Melanerpes uropygialis uropygialis	-	T	s	-	-	-
Northern Beardless Tyrannulet	Camptostoma imberbe ridgwayi	-	E	s	-	-	-
Southwestern Willow Flycatcher	Empidonax traillii extimus	E h	E	s	-	-	-
Buff-breasted Flycatcher	Empidonax fulvifrons pygmaeus	-	-	-	-	-	s
Thick-billed Kingbird	Tyrannus crassirostris	-	E	s	-	-	-
Loggerhead Shrike	Lanius ludovicianus	-	-	-	s	-	s
Bell's Vireo	Vireo bellii	-	T	s	-	-	-
Gray Vireo	Vireo vicinior	-	T	s	-	-	-
Mexican Chickadee	Poecile sclateri eidos	-	-	s	-	-	-
Gray Catbird	Dumetella carolinensis ruficrissa	-	-	s	-	-	-
Sprague's Pipit	Anthus spragueii	-	-	s	-	-	-
American Redstart	Setophaga ruticilla tricolora	-	-	s	-	-	-
Abert's Towhee	Pipilo aberti aberti	-	T	s	-	-	-
Botteri's Sparrow	Aimophila botterii arizonae	-	-	-	-	s	-
Baird's Sparrow	Ammodramus bairdii	-	T	s	s	-	s
AZ Grasshopper Sparrow	Ammodramus savannarum amolegus	-	T	-	-	-	-
Yellow-eyed Junco	Junco phaeonotus palliatus	-	T	s	-	-	-
McCown's Longspur	Calcarius mccownii	-	-	s	-	-	-
Varied Bunting	Passerina versicolor	-	T	s	-	-	-

# NEW MEXICAN WILDLIFE OF CONCERN

## STATE-WIDE LIST

Common Name.....	SCIENTIFIC NAME.....	FWS ESA	NM MCA	FS R3	BLM NM	NM Sen	FWS SOC
<b>MAMMALS</b>							
Arizona Shrew	Sorex arizonae	-	E	-	S	-	S
Least Shrew	Cryptotis parva	-	T	-	-	-	-
Mexican Long-tongued Bat	Choeronycteris mexicana	-	-	S	S	S	S
Mexican Long-nosed Bat	Leptonycteris nivalis	E mg	E	S	-	-	-
Lesser Long-nosed Bat	Leptonycteris curasoae yerbabuenae	E m	T	S	-	-	-
Western Small-footed Myotis Bat	Myotis ciliolabrum melanorhinus	-	-	-	S	S	S
Yuma Myotis Bat	Myotis yumanensis yumanensis	-	-	-	S	S	S
Little Brown Myotis Bat	Myotis lucifugus carissima	-	-	-	-	S	-
Occult Little Brown Myotis Bat	Myotis lucifugus occultus	-	-	S	S	S	S
Cave Myotis Bat	Myotis velifer	-	-	S	S	S	S
Long-legged Myotis Bat	Myotis volans interior	-	-	-	S	S	S
Fringed Myotis Bat	Myotis thysanodes thysanodes	-	-	-	S	S	S
Long-eared Myotis Bat	Myotis evotis evotis	-	-	-	S	S	S
Western Yellow Bat	Lasiurus xanthinus	-	T	S	-	-	-
Western Red Bat	Lasiurus blossevillei	-	-	S	-	S	-
Eastern Red Bat	Lasiurus borealis	-	-	S	-	S	-
Spotted Bat	Euderma maculatum	-	T	S	-	-	S
Allen's Big-eared Bat	Idionycteris phyllotis	-	-	-	S	S	S
Pale Townsend's Big-eared Bat	Plecotus townsendii pallidus	-	-	S	S	S	S
Big Free-tailed Bat	Nyctinomops macrotis	-	-	-	S	S	S
Greater Western Mastiff Bat	Eumops perotis californicus	-	-	-	S	S	S
Goat Peak Pika	Ochotona princeps nigrescens	-	-	S	S	n	S
White-tailed Jack Rabbit	Lepus townsendii campanus	-	-	-	-	S	-
White-sided Jack Rabbit	Lepus callotis gaillardi	-	T	S	S	-	S
Penasco Least Chipmunk	Tamias minimus atristriatus	-	E	S	-	n	-
Organ Mountains Colorado Chipmunk	Tamias quadrivittatus australis	-	T	-	S	-	S
Oscara Mountains Colorado Chipmunk	Tamias quadrivittatus oscuraensis	-	T	-	S	-	S
Gray-footed Chipmunk	Tamias canipes canipes	-	-	-	S	-	S
Gray-footed Chipmunk	Tamias canipes sacramentoensis	-	-	-	S	n	S
Yellow-bellied Marmot	Marmota flaviventris	-	-	-	-	S	-
White-Mountains Ground Squirrel	Spermophilus tridecemlineatus monticola	-	-	S	-	-	-
Rock Squirrel	Spermophilus variegatus tularosae	-	-	-	-	S	n
Black-tailed Prairie Dog	Cynomys ludovicianus ludovicianus	CW m	-	-	-	S	-
AZ Black-tailed Prairie Dog	Cynomys ludovicianus arizonensis	CW m	-	S	S	S	S
Gunnison's Prairie Dog	Cynomys gunnisoni	-	-	-	-	S	-
Red Squirrel	Tamiasciurus hudsonicus lynchnuchus	-	-	-	-	S	n
Northern Pocket Gopher	Thomomys talpoides taylori	-	-	-	-	S	n
Botta's Pocket Gopher	Thomomys bottae actuosus	-	-	-	-	S	n
Botta's Pocket Gopher	Thomomys bottae collis	-	-	-	-	S	n
Botta's Pocket Gopher	Thomomys bottae connectens	-	-	-	-	S	n
Guadalupe Pocket Gopher	Thomomys bottae guadalupensis	-	-	S	S	S	S
Mearns' Pocket Gopher	Thomomys bottae mearnsi	-	-	-	S	S	S
Botta's Pocket Gopher	Thomomys bottae morulus	-	-	-	-	S	n
Botta's Pocket Gopher	Thomomys bottae opulentus	-	-	-	-	S	n
Cebolleta Pocket Gopher	Thomomys bottae paguatae	-	-	S	S	S	n
Botta's Pocket Gopher	Thomomys bottae planorum	-	-	-	-	S	n
Botta's Pocket Gopher	Thomomys bottae ruidosae	-	-	-	-	S	n

# NEW MEXICAN WILDLIFE OF CONCERN

## STATE-WIDE LIST

Common Name.....	SCIENTIFIC NAME.....	FWS ESA	NM WCA	FS R3	BLM NM	NM Sen	FWS SOC
<b>MAMMALS CONTINUED</b>							
Botta's Pocket Gopher	Thomomys bottae tularosae	-	-	-	-	S N	-
Southern Pocket Gopher	Thomomys umbrinus emotus	-	T	-	-	-	-
Desert Pocket Gopher	Geomys arenarius arenarius	-	-	-	S	-	S
Desert Pocket Gopher	Geomys arenarius brevirostris	-	-	-	-	S N	S
Plains Pocket Mouse	Perognathus flavescens gypsi	-	-	-	-	S N	-
Rock Pocket Mouse	Chaetodipus intermedius ater	-	-	-	-	S N	-
Rock Pocket Mouse	Chaetodipus intermedius rupestris	-	-	-	-	S	-
Nelson's Pocket Mouse	Chaetodipus nelsoni canescens	-	-	-	-	S	-
Yellow-nosed Cotton Rat	Sigmodon ochrogathus	-	-	-	S	-	S
White-throated Wood Rat	Neotoma albigula melas	-	-	-	-	S N	-
Mexican Wood Rat	Neotoma mexicana atrata	-	-	-	-	S N	-
Heather Vole	Phenacomys intermedius intermedius	-	-	-	-	S	-
Arizona Montane Vole	Microtus montanus arizonensis	-	E	S	-	-	-
Prairie Vole	Microtus ochrogaster haydenii	-	-	-	-	S	-
Navajo Mogollon Vole	Microtus mogollonensis navaho	-	-	-	-	-	S
Pecos River Muskrat	Ondatra zibethicus ripensis	-	-	-	S	S	S
New Mexican Jumping Mouse	Zapus hudsonius luteus	-	T	S	S	-	S
Mexican Gray Wolf	Canis lupus baileyi	E ■	E	S	-	-	-
Red Fox	Vulpes vulpes	-	-	-	-	S	-
Swift Fox	Vulpes velox velox	CH ■	-	S	-	S	-
Ringtail	Bassariscus astutus	-	-	S	-	S	-
White-nosed Coati	Nasua narica	-	-	S	-	S	-
American Marten	Martes americana origenes	-	T	S	-	-	-
Western Spotted Skunk	Spilogale gracilis	-	-	-	-	S	-
Hooded Skunk	Mephitis macroura milleri	-	-	-	-	S	-
Common Hog-nosed Skunk	Conepatus mesoleucus	-	-	-	-	S	-
Southwestern River Otter	Lutra canadensis sonora	-	-	S	S	S	S
Jaguar	Panthera onca arizonensis	E ■	R	S	-	S	-
Sandhill White-tailed Deer	Odocoileus virginianus texana	-	-	-	-	S ■	-
Chihuahuan Pronghorn	Antilocapra americana mexicana	-	-	S	-	■	-
Rocky Mountain Bighorn Sheep	Ovis canadensis canadensis	-	-	S	-	■	-
Desert Bighorn Sheep	Ovis canadensis mexicana (endangered pops)	-	E	S	-	■	-
Desert Bighorn Sheep	Ovis canadensis mexicana (hunted pop)	-	-	S	-	S ■	-

# NEW MEXICAN WILDLIFE OF CONCERN

## STATE-WIDE LIST

Common Name.....	SCIENTIFIC NAME.....	FWS ESA	NH WCA	FS R3	BLM NM	NH Sen	FWS SOC
<b>MOLLUSCS</b>							
Paper-shell Mussel	Utterbackia imbecillis	-	E	-	-	-	-
Texas Hornshell	Popenaias popetti	-	E	-	-	-	S
Swamp Fingernailclam	Musculium partumetum	-	T	-	-	-	-
Lake Fingernailclam	Musculium lacustre	-	T	S	-	-	-
Long Fingernailclam	Musculium transversum	-	T	-	-	-	-
Lilljeborg's Peaclam	Pisidium lilljeborgi	-	T	S	-	-	-
Sangre De Cristo Peaclam	Pisidium sanguinichristi	(g)	T	S	S	n	S
Chupadera Pyrg Snail	Pyrgulopsis chupaderae	C	E	-	-	n	-
Gila Pyrg Snail	Pyrgulopsis gila	C	T	S	-	n	-
Socorro Pyrg Snail	Pyrgulopsis neomexicana	E mg	E	S	-	n	-
Pecos Pyrg Snail	Pyrgulopsis pecosensis	-	T	-	S	n	S
Roswell Pyrg Snail	Pyrgulopsis roswellensis	C	E	-	-	n	-
New Mexico Hot Spring Pyrg Snail	Pyrgulopsis thermalis	C	T	S	-	n	-
Alamosa Tryonia Snail	Tryonia alamosae	E mg	E	S	-	-	-
Koster's Tryonia Snail	Tryonia kosteri	C	E	-	-	n	-
Pecos Assiminea Snail	Assiminea pecos	C	E	-	-	-	-
Wrinkled Marshsnail	Stagnicola caperatus	-	E	S	-	-	-
Star Gyro Snail	Gyraulus crista	-	T	S	-	-	-
Shortneck Snaggletooth Snail	Gastrocopta dalliana dalliana	-	E	-	-	-	S
Ovate Vertigo Snail	Vertigo ovata	-	T	-	-	-	S
Cockerell's Striate Disc Snail	Discus shimeki cockerelli	-	-	-	S	S	S
Mineral Creek Mountainsnail	Oreohelix pilsbryi	-	T	-	-	n	S
Socorro Mountainsnail	Oreohelix neomexicana	-	-	-	-	S n	-
Woodlandsnail	Ashmunella amblya cornudasensis	-	-	-	S	n	-
Cook's Peak Woodlandsnail	Ashmunella macromphala	-	T	-	S	n	S
Hacheta Grande Woodlandsnail	Ashmunella hebardi	-	T	-	S	n	S
Dona Ana Talussnail	Sonorella todseni	-	T	-	S	n	S
<b>CRUSTACEANS</b>							
Socorro Isopod	Thermosphaeroma thermophilum	E mg	E	S	-	n	-
Noel's Amphipod	Gammarus desperatus	-	E	-	S	n	S
Conchas Crayfish	Orconectes deanae	-	-	-	-	S	-
Fairy Shrimp	Streptocephalus moorei	-	-	-	-	S	-
<b>OTHER INVERTEBRATES</b>							
False Ameletus Mayfly	Ameletus falsus	-	-	S	-	-	S
San Ysidro Mealybug	Distichlicoccus fontanus	-	-	-	-	S n	-
Bonita Diving Beetle	Deronectes neomexicana	-	-	-	-	S	S
Animas Minute Moss Beetle	Limnebius aridus	-	-	-	S	S	S
Anthony Blister Beetle	Lytta mirifica	-	-	-	S	S	S
Blue-black Silverspot Butterfly	Speyeria nokomis nokomis	-	-	-	-	-	S
Mountain Silverspot Butterfly	Speyeria nokomis nitocris	-	-	S	-	-	-
Pearly Checkerspot Butterfly	Charidryas acastus acastus	-	-	-	-	-	S
SW Pearly Checkerspot Butterfly	Charidryas acastus sabina	-	-	-	-	-	S
Cloudcroft Checkerspot Butterfly	Occidryas anicia cloudcrofti	-	-	-	-	S n	-
Obsolete Viceroy Butterfly	Basilarchia archippus obsoleta	-	-	S	-	-	-
Albarufan Dagger Moth	Acronicta albarufa	-	-	-	-	S	S
Slate Millipede	Comanichus chihuanae	-	-	-	S	S	S

## WILDLIFE ENDEMIC TO NEW MEXICO

### FISH

White Sands Pupfish

### AMPHIBIANS

Sacramento Mountain Salamander  
Jemez Mountains Salamander

### REPTILES

Bleached Earless Lizard  
White Sands Prairie Lizard  
Little White Whiptail  
Woodland Striped Whiptail  
Plains Striped Whiptail

### BIRDS

WY Sharp-tailed Grouse

### MAMMALS

Goat Peak Pika  
Eastern Cottontail Rabbit  
Penasco Least Chipmunk  
Gray-footed Chipmunk  
Gray-collared Chipmunk  
Rock Squirrel  
Red Squirrel  
Northern Pocket Gopher  
Botta's Pocket Gopher  
Botta's Pocket Gopher  
Botta's Pocket Gopher  
Botta's Pocket Gopher  
Botta's Pocket Gopher  
Cebolleta Pocket Gopher  
Botta's Pocket Gopher  
Botta's Pocket Gopher  
Botta's Pocket Gopher  
Southern Pocket Gopher  
Desert Pocket Gopher  
Plains Pocket Mouse  
Rock Pocket Mouse  
Hot Springs Cotton Rat  
White-throated Wood Rat  
Mexican Wood Rat

Cyprinodon tularosa

Aneides hardii  
Plethodon neomexicanus

Holbrookia maculata ruthveni  
Sceloporus undulatus cowlesi  
Cnemidophorus inornatus gypsi  
Cnemidophorus inornatus juniperus  
Cnemidophorus inornatus ilanuras

Tympanuchus phasianellus hueyi

Ochotona princeps nigrescens  
Sylvilagus floridanus cognatus  
Tamias minimus atristriatus  
Tamias canipes sacramentoensis  
Tamias cinereicollis cinereus  
Spermophilus variegatus tularosae  
Tamiasciurus hudsonicus lychnuchus  
Thomomys talpoides taylori  
Thomomys bottae actuosus  
Thomomys bottae collis  
Thomomys bottae connectens  
Thomomys bottae morulus  
Thomomys bottae opulentus  
Thomomys bottae paguatae  
Thomomys bottae planorum  
Thomomys bottae ruidosae  
Thomomys bottae tularosae  
Thomomys umbrinus emotus  
Geomys arenarius brevisrostris  
Perognathus flavescens gypsi  
Chaetodipus intermedius ater  
Sigmodon fulviventer goldmani  
Neotoma albigula melas  
Neotoma mexicana atrata

# WILDLIFE ENDEMIC TO NEW MEXICO - CONTINUED

## INVERTEBRATES

Sangre De Cristo Peaclam  
 Chupadera Pyrg Snail  
 Gila Pyrg Snail  
 Socorro Pyrg Snail  
 Pecos Pyrg Snail  
 Roswell Pyrg Snail  
 New Mexico Hotspring Pyrg Snail  
 Alamosa Tryonia Snail  
 Koster's Tryonia Snail  
 Vallonia Snail  
 Metcalf Holospira Snail  
 Bishop Tubeshell Snail  
 Mountainsnail  
 Mineral Creek Mountainsnail  
 Black Range Mountainsnail  
 Pinos Altos Mountainsnail  
 Florida Mountainsnail  
 San Augustin Mountainsnail  
 Socorro Mountainsnail  
 Fringed Mountainsnail  
 Woodlandsnail  
 Goat Mountain Woodlandsnail  
 Maple Canyon Woodlandsnail  
 Dry Creek Woodlandsnail  
 Mount Riley Woodlandsnail  
 Cook's Peak Woodlandsnail  
 Florida Mountain Woodlandsnail  
 Hacheta Grande Woodlandsnail  
 Animas Peak Woodlandsnail  
 New Mexico Talussnail  
 Dona Ana Talussnail  
 Animas Talussnail  
 Socorro Isopod  
 Noel's Amphipod  
 Mayfly  
 San Ysidro Mealybug  
 Grasshopper  
 Long-horned Grasshopper  
 Cricket  
 Cricket  
 Cricket  
 Cricket  
 Jerusalem Cricket  
 Neobine Cricket  
 Cloudcroft Checkerspot Butterfly

Pisidium sanguinichristi  
 Pyrgulopsis chupaderae  
 Pyrgulopsis gila  
 Pyrgulopsis neomexicana  
 Pyrgulopsis pecosensis  
 Pyrgulopsis roswellensis  
 Pyrgulopsis thermalis  
 Tryonia alamosae  
 Tryonia kosteri  
 Vallonia sonarana  
 Holospira metcalfi  
 Coelostemma pyrgonasta  
 Oreohelix nopalensis  
 Oreohelix pilsbryi  
 Oreohelix metcalfei cuchillensis  
 Oreohelix confragosa  
 Oreohelix florida  
 Oreohelix litoralis  
 Oreohelix neomexicana  
 Radiocentrum ferrissi  
 Ashmunella amblya cornudasensis  
 Ashmunella harrisi  
 Ashmunella todsoni  
 Ashmunella tetrodon fragilis  
 Ashmunella rileyensis  
 Ashmunella macromphala  
 Ashmunella walkeri  
 Ashmunella hebari  
 Ashmunella animasensis  
 Sonorella hachitana peloncillensis  
 Sonorella todsoni  
 Sonorella animasensis  
 Thermosphaeroma thermophilum  
 Gammarus desperatus  
 Lachlania dencyannae  
 Distichlicoccus fontanus  
 Trimerotropis sp.  
 Plagiostira mescaleroensis  
 Ammobaenetes arenicolus  
 Ammobaenetes  
 Ceuthophilus leptopus  
 Ceuthophilus mescalero  
 Stenopelmatus mescaleroensis  
 Eunemobius  
 Occidryas antia cloudcrofti

# NEW MEXICO "CITES" LISTED WILDLIFE

Convention on International Trade In Endangered Species (CITES)

Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	CITES Appendix II (Export Permit Req.)
Ornate Box Turtle	<i>Terrapene ornata</i>	CITES Appendix II (Export Permit Req.)
Osprey	<i>Pandion haliaetus</i>	CITES Appendix II (Export Permit Req.)
American Swallow-tailed Kite	<i>Elanoides forficatus</i>	CITES Appendix II (Export Permit Req.)
Black-shouldered Kite	<i>Elanus caeruleus</i>	CITES Appendix II (Export Permit Req.)
Mississippi Kite	<i>Ictinia mississippiensis</i>	CITES Appendix II (Export Permit Req.)
Bald Eagle	<i>Haliaeetus leucocephalus</i>	CITES Appendix I (Import & Export Permit)
Northern Harrier	<i>Circus cyaneus</i>	CITES Appendix II (Export Permit Req.)
Sharp-shinned Hawk	<i>Accipiter striatus</i>	CITES Appendix II (Export Permit Req.)
Cooper's Hawk	<i>Accipiter cooperii</i>	CITES Appendix II (Export Permit Req.)
Northern Goshawk	<i>Accipiter gentilis</i>	CITES Appendix II (Export Permit Req.)
Harris' Hawk	<i>Parabuteo unicinctus</i>	CITES Appendix II (Export Permit Req.)
Northern Gray Hawk	<i>Buteo nitidus maximus</i>	CITES Appendix II (Export Permit Req.)
Red-shouldered Hawk	<i>Buteo lineatus</i>	CITES Appendix II (Export Permit Req.)
Broad-winged Hawk	<i>Buteo platypterus</i>	CITES Appendix II (Export Permit Req.)
Swainson's Hawk	<i>Buteo swainsoni</i>	CITES Appendix II (Export Permit Req.)
Zone-tailed Hawk	<i>Buteo albonotatus</i>	CITES Appendix II (Export Permit Req.)
Red-tailed Hawk	<i>Buteo jamaicensis</i>	CITES Appendix II (Export Permit Req.)
Ferruginous Hawk	<i>Buteo regalis</i>	CITES Appendix II (Export Permit Req.)
Rough-legged Hawk	<i>Buteo lagopus</i>	CITES Appendix II (Export Permit Req.)
Golden Eagle	<i>Aquila chrysaetos</i>	CITES Appendix II (Export Permit Req.)
Crested Caracara	<i>Caracara plancus</i>	CITES Appendix II (Export Permit Req.)
American Kestrel	<i>Falco sparverius</i>	CITES Appendix II (Export Permit Req.)
Merlin	<i>Falco columbarius</i>	CITES Appendix II (Export Permit Req.)
Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	CITES Appendix II (Export Permit Req.)
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	CITES Appendix I (Import & Export Permit)
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	CITES Appendix I (Import & Export Permit)
Prairie Falcon	<i>Falco mexicanus</i>	CITES Appendix II (Export Permit Req.)
Sandhill Crane	<i>Grus canadensis</i>	CITES Appendix II (Export Permit Req.)
Whooping Crane	<i>Grus americana</i>	CITES Appendix I (Import & Export Permit)
Barn Owl	<i>Tyto alba</i>	CITES Appendix II (Export Permit Req.)
Flammulated Owl	<i>Otus flammeolus</i>	CITES Appendix II (Export Permit Req.)
Western Screech Owl	<i>Otus kennicottii</i>	CITES Appendix II (Export Permit Req.)
Whiskered Screech Owl	<i>Otus trichopsis</i>	CITES Appendix II (Export Permit Req.)
Great-horned Owl	<i>Bubo virginianus</i>	CITES Appendix II (Export Permit Req.)
Northern Pygmy Owl	<i>Glaucidium gnoma</i>	CITES Appendix II (Export Permit Req.)
Elf Owl	<i>Micrathene whitneyi</i>	CITES Appendix II (Export Permit Req.)
Burrowing Owl	<i>Speotyto cunicularia hypugaea</i>	CITES Appendix II (Export Permit Req.)
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	CITES Appendix II (Export Permit Req.)
Long-eared Owl	<i>Asio otus</i>	CITES Appendix II (Export Permit Req.)
Short-eared Owl	<i>Asio flammeus</i>	CITES Appendix II (Export Permit Req.)
Boreal Owl	<i>Aegolius funereus</i>	CITES Appendix II (Export Permit Req.)
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	CITES Appendix II (Export Permit Req.)
Broad-billed Hummingbird	<i>Cynanthus latirostris</i>	CITES Appendix II (Export Permit Req.)
White-eared Hummingbird	<i>Hylocharis leucotis</i>	CITES Appendix II (Export Permit Req.)
Violet-crowned Hummingbird	<i>Amazilia violiceps</i>	CITES Appendix II (Export Permit Req.)
Blue-throated Hummingbird	<i>Lampornis clemenciae</i>	CITES Appendix II (Export Permit Req.)
Magnificent Hummingbird	<i>Eugenes fulgens</i>	CITES Appendix II (Export Permit Req.)
Lucifer Hummingbird	<i>Calothorax lucifer</i>	CITES Appendix II (Export Permit Req.)
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	CITES Appendix II (Export Permit Req.)
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	CITES Appendix II (Export Permit Req.)
Anna's Hummingbird	<i>Calypte anna</i>	CITES Appendix II (Export Permit Req.)
Costa's Hummingbird	<i>Calypte costae</i>	CITES Appendix II (Export Permit Req.)
Calliope Hummingbird	<i>Stellula calliope</i>	CITES Appendix II (Export Permit Req.)
Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>	CITES Appendix II (Export Permit Req.)
Rufous Hummingbird	<i>Selasphorus rufus</i>	CITES Appendix II (Export Permit Req.)
Gray Wolf	<i>Canis lupus</i>	CITES Appendix II (Export Permit Req.)
Mexican Gray Wolf	<i>Canis lupus baileyi</i>	CITES Appendix II (Export Permit Req.)
Black Bear	<i>Ursus americanus</i>	CITES Appendix II (Export Permit Req.)
Grizzly Bear	<i>Ursus arctos</i>	CITES Appendix II (Export Permit Req.)
Black-footed Ferret	<i>Mustela nigripes</i>	CITES Appendix I (Import & Export Permit)
Southwestern River Otter	<i>Lutra canadensis sonora</i>	CITES Appendix II (Export Permit Req.)
Mountain Lion	<i>Felis concolor</i>	CITES Appendix II (Export Permit Req.)
Jaguar	<i>Panthera onca</i>	CITES Appendix I (Import & Export Permit)
Bobcat	<i>Lynx rufus</i>	CITES Appendix II (Export Permit Req.)
Barbary Sheep	<i>Ammotragus lervia</i>	CITES Appendix II (Export Permit Req.)

# NEW MEXICO HARVESTED WILDLIFE

Species which are harvested in New Mexico. Refer to the New Mexico Department of Game & Fish "Proclamations" for seasons, bag limits and appropriate license information.

"Hatchery" Cutthroat Trout  
Rio Grande Cutthroat Trout  
Rainbow Trout  
Kokanee Salmon  
Brown Trout  
Brook Trout  
Lake Trout  
Northern Pike  
Black Bullhead  
Yellow Bullhead  
Blue Catfish  
Headwater Catfish  
Channel Catfish  
Chihuahua Catfish  
Flathead Catfish  
White Bass  
Striped Bass  
Rock Bass  
Green Sunfish  
Warmouth  
Bluegill  
Longear Sunfish  
Smallmouth Bass  
Spotted Bass  
Largemouth Bass  
White Crappie  
Black Crappie  
Yellow Perch  
Walleye

*Oncorhynchus clarki*  
*Oncorhynchus clarki virginalis*  
*Oncorhynchus mykiss*  
*Oncorhynchus nerka*  
*Salmo trutta*  
*Salvelinus fontinalis*  
*Salvelinus namaycush*  
*Esox lucius*  
*Ameiurus melas*  
*Ameiurus natalis*  
*Ictalurus furcatus*  
*Ictalurus lupus*  
*Ictalurus punctatus*  
*Ictalurus sp*  
*Pylodictis olivaris*  
*Morone chrysops*  
*Morone saxatilis*  
*Ambloplites rupestris*  
*Lepomis cyanellus*  
*Lepomis gulosus*  
*Lepomis macrochirus*  
*Lepomis megalotis*  
*Micropterus dolomieu*  
*Micropterus punctulatus*  
*Micropterus salmoides*  
*Pomoxis annularis*  
*Pomoxis nigromaculatus*  
*Perca flavescens*  
*Stizostedion vitreum*

## Bullfrog

## *Rana catesbeiana*

Greater White-fronted Goose  
Snow Goose  
Ross's Goose  
Canada Goose  
Wood Duck  
Gadwall Duck  
American Wigeon Duck  
Mallard Duck  
Blue-winged Teal Duck  
Cinnamon Teal Duck  
Northern Shoveler Duck  
Northern Pintail Duck  
Green-winged Teal Duck  
Canvasback Duck  
Redhead Duck  
Ring-necked Duck  
Greater Scaup Duck  
Lesser Scaup Duck  
Surf Scoter Duck  
Bufflehead Duck  
Common Goldeneye Duck  
Barrow's Goldeneye Duck  
Hooded Merganser Duck  
Common Merganser Duck  
Ruddy Duck

*Anser albifrons frontalis*  
*Chen caerulescens hyperborea*  
*Chen rossii*  
*Branta canadensis*  
*Aix sponsa*  
*Anas strepera*  
*Anas americana*  
*Anas platyrhynchos*  
*Anas discors discors*  
*Anas cyanoptera septentrionalis*  
*Anas clypeata*  
*Anas acuta*  
*Anas crecca carolinensis*  
*Aythya valisineria*  
*Aythya americana*  
*Aythya collaris*  
*Aythya marila nearctica*  
*Aythya affinis*  
*Melanitta perspicillata*  
*Bucephala albeola*  
*Bucephala clangula americana*  
*Bucephala islandica*  
*Lophodytes cucullatus*  
*Mergus merganser americanus*  
*Oxyura jamaicensis rubida*

HARVESTED WILDLIFE CONTINUED

Sharp-shinned Hawk  
Cooper's Hawk  
Northern Goshawk  
Harris's Hawk  
Red-tailed Hawk  
Ferruginous Hawk  
American Kestrel  
Merlin  
Prairie Falcon  
Ring-necked Pheasant  
Blue Grouse  
Wild Turkey  
Montezuma Quail  
Northern Bobwhite Quail  
Scaled Quail  
Gambel's Quail  
Virginia Rail  
Sora  
Common Moorhen  
American Coot  
Sandhill Crane  
Common Snipe  
Band-tailed Pigeon  
White-winged Dove  
Mourning Dove  
Great-horned Owl

Abert's Squirrel  
Red Squirrel  
American Beaver  
Nutria  
Common Muskrat  
Pecos River Muskrat  
Red Fox  
Swift Fox  
Kit Fox  
Common Gray Fox  
Black Bear  
Ringtail  
Common Raccoon  
Ermine Weasel  
Long-tailed Weasel  
American Badger  
Mountain Lion  
Bobcat  
Collared Peccary  
Elk  
Mule Deer  
White-tailed Deer  
Pronghorn  
Rocky Mountain Bighorn Sheep  
Desert Bighorn Sheep  
Barbary Sheep  
Persian Ibex  
Oryx

Accipiter striatus velox  
Accipiter cooperii  
Accipiter gentilis  
Parabuteo unicinctus harrisi  
Buteo jamaicensis  
Buteo regalis  
Falco sparverius sparverius  
Falco columbarius  
Falco mexicanus  
Phasianus colchicus  
Dendragapus obscurus obscurus  
Meleagris gallopavo  
Cyrtornyx montezumae mearnsi  
Colinus virginianus  
Callipepla squamata pallida  
Callipepla gambelii  
Rallus limicola limicola  
Porzana carolina  
Gallinula chloropus cachinnans  
Fulica americana americana  
Grus canadensis  
Gallinago gallinago delicata  
Columba fasciata fasciata  
Zenaida asiatica  
Zenaida macroura  
Bubo virginianus  
  
Sciurus aberti  
Tamiasciurus hudsonicus  
Castor canadensis  
Myocastor coypus  
Ondatra zibethicus  
Ondatra zibethicus ripensis  
Vulpes vulpes  
Vulpes velox velox  
Vulpes macrotis  
Urocyon cinereoargenteus scottii  
Ursus americanus amblyceps  
Bassariscus astutus  
Procyon lotor  
Mustela erminea muricus  
Mustela frenata  
Taxidea taxus berlandieri  
Felis concolor  
Lynx rufus baileyi  
Tayassu tajacu sonoriensis  
Cervus elaphus nelsoni  
Odocoileus hemionus  
Odocoileus virginianus  
Antilocapra americana  
Ovis canadensis canadensis  
Ovis canadensis mexicana (1 population)  
Ammotragus lervia  
Capra aegagrus  
Oryx gazella

# New Mexican Wildlife of Concern - Bernalillo County

Page 1 of 2

Common Name.....	SCIENTIFIC NAME.....	FWS ESA	NM MCA	FS R3	BLM NM	NM Sen	FWS SOC
Rio Grande Chub	Gila pandora	-	-	-	-	S	-
Rio Grande Silvery Minnow	Hybognathus amarus	E g(hm)	E	s	-	-	-
Flathead Chub	Platygobio gracilis	-	-	-	s	-	s
Northern Leopard Frog	Rana pipiens	-	-	s	-	-	-
Desert Kingsnake	Lampropeltis getula splendida	-	-	s	-	-	-
Texas Longnose Snake	Rhinocheilus lecontei	-	-	s	-	-	-
Desert Massasauga	Sistrurus catenatus edwardsii	-	-	s	-	-	-
Clark's Grebe	Aechmophorus clarkii	-	-	s	-	-	-
Neotropical Cormorant	Phalacrocorax brasilianus	-	T	s	-	-	-
American Bittern	Botaurus lentiginosus	-	-	s	-	-	-
Least Bittern	Ixobrychus exilis exilis	-	-	s	-	-	-
Snowy Egret	Egretta thula brewsteri	-	-	s	-	-	-
Green Heron	Butorides virescens	-	-	s	-	-	-
Black-crowned Night Heron	Nycticorax nycticorax hoactli	-	-	s	-	-	-
White-faced Ibis	Plegadis chihi	-	-	s	s	-	s
Osprey	Pandion haliaetus carolinensis	-	-	s	-	-	-
Mississippi Kite	Ictinia mississippiensis	-	-	s	-	-	-
Bald Eagle	Haliaeetus leucocephalus	T mg	T	s	-	-	-
Northern Goshawk	Accipiter gentilis	-	-	s	s	s	s
Common Black-hawk	Buteogallus anthracinus anthracinus	-	T	s	-	-	-
Swinson's Hawk	Buteo swainsoni	-	-	s	-	-	-
Zone-tailed Hawk	Buteo albonotatus	-	-	s	-	-	-
Ferruginous Hawk	Buteo regalis	-	-	s	s	-	s
American Peregrine Falcon	Falco peregrinus anatum	m	T	s	-	-	-
Sora	Porzana carolina	-	-	s	-	-	-
Whooping Crane	Grus americana	E mg	E	s	-	-	-
Western Snowy Plover	Charadrius alexandrinus nivosus	-	-	s	-	-	-
Mountain Plover	Charadrius montanus	P	-	s	-	s	-
Black-necked Stilt	Himantopus mexicanus	-	-	s	-	-	-
Long-billed Curlew	Numenius americanus americanus	-	-	s	-	-	-
Black Tern	Chlidonias niger surinamensis	-	-	-	s	-	s
Yellow-billed Cuckoo	Coccyzus americanus occidentalis	-	-	s	-	-	-
Flammulated Owl	Otus flammeolus	-	-	s	-	-	-
Burrowing Owl	Athene cunicularia hypugaea	-	-	-	s	-	s
Mexican Spotted Owl	Strix occidentalis lucida	T (h)mg	-	s	-	s	-
Black Swift	Cypseloides niger borealis	-	-	-	-	s	-
White-eared Hummingbird	Hylocharis leucotis borealis	-	T	s	-	-	-
Belted Kingfisher	Ceryle alcyon	-	-	s	-	-	-
Southwestern Willow Flycatcher	Empidonax traillii extimus	E h	E	s	-	-	-
Buff-breasted Flycatcher	Empidonax fulvifrons pygmaeus	-	-	-	-	-	s
Loggerhead Shrike	Lanius ludovicianus	-	-	-	s	-	s
Bell's Vireo	Vireo bellii	-	T	s	-	-	-
Gray Vireo	Vireo vicinior	-	T	s	-	-	-
Gray Catbird	Dumetella carolinensis ruficrissa	-	-	s	-	-	-
American Redstart	Setophaga ruticilla tricolora	-	-	s	-	-	-
Baird's Sparrow	Ammodramus bairdii	-	T	s	s	-	s
Western Small-footed Myotis Bat	Myotis ciliolabrum melanorhinus	-	-	-	s	s	s
Yuma Myotis Bat	Myotis yumanensis yumanensis	-	-	-	s	s	s
Occult Little Brown Myotis Bat	Myotis lucifugus occultus	-	-	s	s	s	s
Long-legged Myotis Bat	Myotis volans interior	-	-	-	s	s	s
Fringed Myotis Bat	Myotis thysanodes thysanodes	-	-	-	s	s	s
Spotted Bat	Euderma maculatum	-	T	s	s	-	s

# New Mexican Wildlife of Concern - Bernalillo County

Page 2 of 2

Common Name.....	SCIENTIFIC NAME.....	FWS.. ESA	NM... WCA	FS. R3	BLM.. NM	NH... Sen	FWS.. SOC
Pale Townsend's Big-eared Bat	<i>Plecotus townsendii pallescens</i>	-	-	S	S	S	S
Big Free-tailed Bat	<i>Nyctinomops macrotis</i>	-	-	-	S	S	S
Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	-	-	-	-	S	-
Botta's Pocket Gopher	<i>Thomomys bottae connectens</i>	-	-	-	-	S n	-
New Mexican Jumping Mouse	<i>Zapus hudsonius luteus</i>	-	T	S	S	-	S
Red Fox	<i>Vulpes vulpes</i>	-	-	-	-	S	-
Ringtail	<i>Bassariscus astutus</i>	-	-	S	-	S	-
Western Spotted Skunk	<i>Spilogale gracilis</i>	-	-	-	-	S	-
Rocky Mountain Bighorn Sheep	<i>Ovis canadensis canadensis</i>	-	-	S	-	M	-
Socorro Mountainsnail	<i>Oreohelix neomexicana</i>	-	-	-	-	S n	-
Pearly Checkerspot Butterfly	<i>Charidryas acastus acastus</i>	-	-	-	-	-	S
Slate Millipede	<i>Comanichelus chihuensis</i>	-	-	-	S	S	S

## NATIVE WILDLIFE APPARENTLY NO LONGER OCCURRING IN BERNALILLO COUNTY

Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i> (extirpated from NM)
Longnose Gar	<i>Lepisosteus osseus</i>
Speckled Chub	<i>Macrhybopsis aestivalis aestivalis</i>
Rio Grande Shiner	<i>Notropis jemezianus</i>
Phantom Shiner	<i>Notropis orca</i> (extinct)
Rio Grande Bluntnose Shiner	<i>Notropis simus simus</i> (extinct)
Blue Catfish	<i>Ictalurus furcatus</i>
Blue Sucker	<i>Cycleptus elongatus</i>
Gray Redhorse	<i>Moxostoma congestum</i>
Freshwater Drum	<i>Aplodinotus grunniens</i> (extirpated from NM)
Arizona Black-tailed Prairie Dog	<i>Cynomys ludovicianus arizonensis</i>
Gray Wolf	<i>Canis lupus</i>
Grizzly Bear	<i>Ursus arctos</i> (extirpated from NM)
Black-footed Ferret	<i>Mustela nigripes</i> (extirpated from NM)
Mink	<i>Mustela vison energumenos</i> (extirpated from NM)
Common Hog-nosed Skunk	<i>Conepatus mesoleucus</i>
Merriam's Elk	<i>Cervus elaphus merriami</i> (extinct)
Ovate Vertigo Snail	<i>Vertigo ovata</i>

# New Mexican Wildlife of Concern - Catron County

Page 1 of 2

Common Name.....	SCIENTIFIC NAME.....	FWS... ESA	NM... WCA	FS... R3	BLM... NM	NM... Sen	FWS... SOC
Gila Trout	Oncorhynchus gilae	E m	T	s	-	-	-
Longfin Dace	Agosia chrysogaster	-	-	-	s	-	s
Gila Chub	Gila intermedia	-	E	s	s	-	s
Roundtail Chub	Gila robusta	-	E	s	s	-	s
Spikedace	Meda fulgida	T hmg	T	s	-	-	-
Loach Minnow	Rhinichthys cobitis	T(E) hm	T	s	-	-	-
Speckled Dace	Rhinichthys osculus (Gila pop.)	-	-	-	s	-	s
Desert Sucker	Catostomus clarki	-	-	-	s	s	s
Sonora Sucker	Catostomus insignis	-	-	-	s	s	s
Rio Grande Sucker	Catostomus plebeius	-	-	s	-	-	-
Chihuahua Catfish	Ictalurus sp	-	-	-	-	s	s
Arizona Toad	Bufo microscaphus microscaphus	-	-	s	s	s	s
Chiricahua Leopard Frog	Rana chiricahuensis	P	-	s	-	s	-
Northern Leopard Frog	Rana pipiens	-	-	s	-	-	-
Lowland Leopard Frog	Rana yavapaiensis	-	E	s	s	-	s
Narrowhead Garter Snake	Thamnophis rufipunctatus rufipunctatus	-	T	s	s	-	s
Brown Pelican	Pelecanus occidentalis carolinensis	E	E	s	-	-	-
Green Heron	Butorides virescens	-	-	s	-	-	-
Black-crowned Night Heron	Nycticorax nycticorax hoactli	-	-	s	-	-	-
Osprey	Pandion haliaetus carolinensis	-	-	s	-	-	-
Mississippi Kite	Ictinia mississippiensis	-	-	s	-	-	-
Bald Eagle	Haliaeetus leucocephalus	T mg	T	s	-	-	-
Northern Goshawk	Accipiter gentilis	-	-	s	s	s	s
Common Black-hawk	Buteogallus anthracinus anthracinus	-	T	s	-	-	-
Swainson's Hawk	Buteo swainsoni	-	-	s	-	-	-
Ferruginous Hawk	Buteo regalis	-	-	s	s	-	s
American Peregrine Falcon	Falco peregrinus anatum	m	T	s	-	-	-
Sora	Porzana carolina	-	-	s	-	-	-
Mountain Plover	Charadrius montanus	P	-	s	-	s	-
Long-billed Curlew	Numenius americanus americanus	-	-	s	-	-	-
Interior Least Tern	Sterna antillarum athalassos	E mg	E	s	-	-	-
Yellow-billed Cuckoo	Coccyzus americanus occidentalis	-	-	s	-	-	-
Flammulated Owl	Otus flammeolus	-	-	s	-	-	-
Elf Owl	Micrathene whitneyi whitneyi	-	-	s	-	-	-
Burrowing Owl	Athene cunicularia hypugaea	-	-	-	s	-	s
Mexican Spotted Owl	Strix occidentalis lucida	T (h)mg	-	s	-	s	-
Belted Kingfisher	Ceryle alcyon	-	-	s	-	-	-
Gila Woodpecker	Melanerpes uropygialis uropygialis	-	T	s	-	-	-
Southwestern Willow Flycatcher	Empidonax traillii extimus	E h	E	s	-	-	-
Loggerhead Shrike	Lanius ludovicianus	-	-	-	s	-	s
Bell's Vireo	Vireo bellii	-	T	s	-	-	-
Gray Vireo	Vireo vicinior	-	T	s	-	-	-
Gray Catbird	Dumetella carolinensis ruficrissa	-	-	s	-	-	-
American Redstart	Setophaga ruticilla tricolora	-	-	s	-	-	-
Baird's Sparrow	Ammodramus bairdii	-	T	s	s	-	s
Varied Bunting	Passerina versicolor	-	T	s	-	-	-
Western Small-footed Myotis Bat	Myotis ciliolabrum melanorhinus	-	-	-	s	s	s
Yuma Myotis Bat	Myotis yumanensis yumanensis	-	-	-	s	s	s
Occult Little Brown Myotis Bat	Myotis lucifugus occultus	-	-	s	s	s	s
Cave Myotis Bat	Myotis velifer	-	-	s	s	s	s
Long-legged Myotis Bat	Myotis volans interior	-	-	-	s	s	s

## DEFINITIONS

- FWS ESA:** Federal Endangered Species Act of 1973; 12-28-73, P.L. 93-205 87 Stat. 884, as amended. Administered by U.S. Fish and Wildlife Service, Department of Interior. List is published as 50 CFR 17.11 and 17.12.
- E** **ENDANGERED:** "... any species which is in danger of extinction throughout all or a significant portion of its range ...". A final rule has been published in the Federal Register.
- T** **THREATENED:** "... any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." A final rule has been published in the Federal Register.
- P** **PROPOSED:** Species that have been officially proposed for listing as threatened or endangered by the Secretary of the Interior. A proposed rule has been published in the Federal Register.
- C** **CANDIDATE:** Species for which the Fish and Wildlife Service has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act. A list has been published in the Federal Register.
- W** **WARRANTED BUT PRECLUDED DETERMINATION:** The Fish and Wildlife Service has determined that the petition to list the taxa as threatened or endangered is warranted but is currently precluded by higher listing priorities. A determination has been published in the Federal Register.
- NM WCA:** New Mexico Wildlife Conservation Act; NM Chapter 17 Statutes Annotated 1973, 17-2 Part 3. The list of Threatened, Endangered and Restricted Species is published as Title 19 of New Mexico Administrative Code, Chapter 33, Part 1 (19 NMAC 33.1). Administered by State of New Mexico, Department of Game and Fish.
- E** **ENDANGERED:** "... any species [or subspecies] of fish or wildlife whose prospects of survival or recruitment within the state are in jeopardy due to any of the following factors: (1) the present or threatened destruction, modification or curtailment of its habitat; (2) over utilization for scientific, commercial or sporting purposes; (3) the effect of disease or predation; (4) other natural or man-made factors affecting its prospects of survival or recruitment within the state; or (5) any combination of the foregoing factors." 17-2-38-D, NMSA, 1978.
- T** **THREATENED:** "... any species [or subspecies] which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range in New Mexico; ..." 17-2-38-M, NMSA, 1978.
- R** **RESTRICTED:** "... any listed large exotic cat species or subspecies" (19 NMAC 33.1). The jaguar is the only Restricted species in this document, it is native to New Mexico.
- FS R3:** United States Forest Service, Department of Agriculture, Region 3 (Southwest Region; Arizona and New Mexico), Albuquerque, NM. Taxa listed in this category are from the old USFS list developed in 1988. A new list has been developed and is under revision. The new list includes federal ESA listed species and taxa listed by the Heritage Program as globally Rare/Imperiled, regardless of whether they occur on or near Forest lands. It does not include: many at risk taxa which are state-listed in NM, bats (a group generally in trouble) and other taxa which are not yet imperiled but may be significantly impacted by Forest management activities. As soon as a new list is available which meets the definition, it will be coded into BISON and included in updates of this document.
- s** **SENSITIVE:** "those species that are likely to occur or have habitat on Nation Forest System lands and that have been identified by the Regional Forester as of concern for reduction in population viability as

evidenced by: significant current or predicted downward trends in population numbers or density, or; significant current or predicted downward trends in habitat capability that would reduce a species' distribution (Forest Service Manual 2670.5). The Forest Service Manual (2672.11) provides the following criteria for potential (but not mandatory) listing of sensitive species: USFWS Candidate species; State lists of endangered, threatened, rare, endemic, unique, or vanishing species; Other sources as appropriate in order to focus conservation management strategies and to avert the need for Federal or State listing as a result of National Forest management activities. These "other sources" have been interpreted by Regional [R3] TES Program managers to include: Species that have been federally delisted within the last 5 years; Species on State Heritage Databases that indicate global and/or regional rarity and/or imperilment (GTN1-3;S1-2).

**BLM NM:** U.S. Bureau of Land Management, Dept. of the Interior, New Mexico State Office, Santa Fe. State Offices were directed by the Wash, DC Office to develop sensitive species lists. The directive indicated lists would include former USFWS Candidate C2 species until a state office developed their own list. Currently, most of the taxa on the NM list are former C2 species. See USFWS Species of Concern above.

s **SENSITIVE:** "... are those designated by a State Director, usually in cooperation with the State agency responsible for managing the species, as sensitive. They are those species that are: (1) under status review by the FWS/NMFS; or (2) whose numbers are declining so rapidly that Federal listing may become necessary; or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats." [BLM Manual, Rel. 6-116, 9/16/88, 6840 - SPECIAL STATUS SPECIES MANAGEMENT, Glossary page 6]

**NM Sen:** New Mexico Department of Game and Fish, informal category which carries no legal requirements.

s **SENSITIVE:** Taxa which, in the opinion of a qualified NMDGF biologist, deserve special consideration in management and planning, and are NOT listed Threatened or Endangered by the state of New Mexico. These may include taxa that are listed Threatened, Endangered or Sensitive by other agencies; taxa with limited protection; and taxa without any legal protection. The intent of this category is to alert land managers to the need for caution in management where these taxa may be affected.

**FWS SOC:** U.S. Fish and Wildlife Service, SPECIES OF CONCERN. An informal category which carries no legal requirements except as designated in manuals of other agencies.

s **SPECIES OF CONCERN:** most of these taxa are former Candidate Category 2 which was defined: "Category 2 comprises taxa for which information now in possession of the Service indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules."